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No. 74

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EXCAVATIONS AT KAUSĀMBĪ
1949-50

By

G. R. SHARMA

Professor & Head of the Department of Ancient Indian History,
Culture & Archaeology

&

Director, Institute of Archaeology
University of Allahabad



अनन्तमपराधाय

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FOREWORD

I have been requested by the author, Professor G. R. Sharma, to write a foreword to this Memoir which embodies the results of the excavations at Kauśāmbī conducted by the University of Allahabad under the direction of Professor Sharma during the years 1949-50. I take this opportunity of explaining to the reader the reason for the enormous delay that has taken place in printing it. The material was received from the author towards the end of January 1955 and, after the completion of the formalities, was sent to the Press in June 1958. It will thus be seen that it has taken full ten years for the Press to complete the printing. In the meantime, the author has published the results of his subsequent excavations at Kauśāmbī, with which work the reader may be well-acquainted. I must thank the author for the patience with which he has borne the delay.

I also thank Shri B. K. Thapar, at present Director (Exploration), Shri H. Sarkar and Shri M. C. Joshi, both Deputy Superintending Archaeologists of the Archaeological Survey of India, and Shri S R. Varma of the Headquarters Office of the Survey for their help in different directions in bringing out the publication.

*New Delhi :
The 1st February 1968*

A. GHOSH
Director General
Archaeological Survey of India.

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| 117 | 1 | burred | blurred |
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PREFACE

The report of the excavations conducted in 1949-50 was submitted to the Director General, Archaeological Survey of India in 1955-56 for publication in the form of a *Memoir of the Archaeological Survey of India*. As the Allahabad University had no funds for this purpose, it was kind of the Director General to have offered to publish it, but unfortunately it could not be brought out earlier.

Since the report was submitted a considerable progress has been made in Indian archaeology. The important excavations conducted in northern and western India in the last decade have completely altered the entire perspective of Indian archaeology. At Kauśāmbī itself the University has excavated the Ghoṣītarama monastery¹, the defence-complex², the *Śyenaciti* of the *Puruṣamedha*³ and the palace-complex⁴ in the south-west corner of the city enclosed within the defences.

The culture sequence, discussed in this report, has to be considerably modified in the light of the results of the excavations at Kauśāmbī itself after 1956. In this report Kauśāmbī Period I, predated the advent of the Northern Black Polished Ware and Kauśāmbī Periods II and III respectively saw its appearance and disappearance. The subsequent excavations conducted at the site, however, substantially altered the picture and in the report of the excavations at Kauśāmbī 1957-59, on the basis of the observation made in the excavations of defences, the following four main periods were established :⁵

KSB I—c.1165 B.C.—c.885 B.C.

KSB II—c. 885 B.C.—c.605 B.C.

KSB III—c. 605 B.C.—c. 45 B.C.

KSB IV c. 45 B.C.—c.580 A.D.

¹*Indian Archaeology—A Review* (this publication is hereafter referred to as *I.A.*), 1953-54, p. 9; *I.A.* 1954-55, pp. 16-17; *I.A.* 1955-56, p. 20; *I. I.* 1956-57, pp. 28-29; *Kern Institute—Annual Bibliography of Indian Archaeology*. Vol. XVI (for the years 1948-53), pp. XLI-XLV; *Allahabad through the Ages* (Allahabad, 1965), pp. 16-17.

²G.R. Sharma, *The Excavations at Kauśāmbī* (1957-59) (Allahabad, 1960), Part I, pp. 3-86.

³Sharma, *ibid.* (1960), Part II, pp. 87-205.

⁴*I.A.* 1960-61, pp. 33-35; *I.A.* 1961-62, pp. 50-52; *I.A.* 1962-63, pp. 32-33; *I.A.* 1963-64, p. 40; *Allahabad through the Ages*, pp. 18-19; G.R. Sharma, 'New Light on the Origin of the Stone Architecture and True Arch in India : Excavations of the Palace of the early kings of Kauśāmbī,' *Proceedings of XXVI International Congress of Orientalists*, New Delhi, 1964.

⁵Sharma, *op.cit.* (1960), p. 22.

Kauśāmbī Period I predated the appearance of the Painted Grey Ware, whereas Kauśāmbī Periods II and III represented the periods of the Painted Grey Ware and the Northern Black Polished Ware respectively, while KSB Period IV was the period of post-N.B.P. Ware.

Further work in the palace-area and inside the defences as well as the reassessment of the evidence, already published in *The Excavations at Kauśāmbī (1957-59)*, has necessitated modification of the culture-sequence. This modification is also supported by the comparison of the material from the lowest levels of Kauśāmbī, viz., the defences and the palace-area, with the material from Atranjikhhera (District Etah), Kakoria—a chalcolithic-megalithic site on the Chandraprabha (District Varanasi), Chirand (Bihar) and some other contemporary sites. Kauśāmbī Period I of the report (*The Excavations at Kauśāmbī—1957-59*) now is to be divided into Periods I and II, and consequently KSB Periods II, III and IV of the said report have to be numbered as KSB III, KSB IV and KSB V respectively.

Kauśāmbī I: Pottery from the lowest levels of KSB I, particularly from the defences, is very fragmentary and extremely worn-out. It represents a group without any analogy with Atranjikhhera period II (black-and-red ware phase). Though the total assemblage of the pottery of KSB I is on the whole different from the pottery types of Atranjikhhera I (OCP phase), three types of the latter can, however, be compared with the analogous types present at Kauśāmbī.¹

Kauśāmbī II: Pottery from the later layers of the defences and almost the entire material from the earliest layers of the palace-area, according to our latest analysis, especially in the light of the material from other sites, constitute a distinct group. There are at least nine types present in this group at Kauśāmbī which compare well with the similar types of Atranjikhhera I. The decorative motifs on the painted and incised sherds, mostly from the palace-area, are comparable with similar ones on the pottery of Rangpur IIB, IIC, and III,² Lothal B,³ Navdatoli III,⁴ and Bahal I.⁵ They constitute a group distinct from KSB I, discussed above, and KSB III.

Many of the pottery-types of KSB I and KSB II are widely distributed in Western and Central India as well as in the Gaṅgā valley, generally in a chalcoli-

¹*Ibid.* (1960), fig. 10, Types 36, 41 and 47.

²S.R. Rao, 'Excavation at Rangpur and other explorations in Gujarat', *Ancient India*, Nos. 18 & 19 (1962 & 1963), pl. XX; fig. 32, B7, B10, B15; fig. 36, C5, C16, C15; fig. 46, D27 and p. 28.

³*I.A.* 1954-55, pl. XVII, No. 1.

⁴H.D. Sankalia, B. Subbarao and S.B. Deo, *The Excavations at Maheshwar and Navdatoli 1952-53* (Poona-Baroda, 1958), fig. 46, la-lk, fig. 56B, j-q.

⁵*I.A.* 1956-57, Pl. XXA, No. 10, 20.

thic context.¹ In the Gāṅgā valley, the most noteworthy sites yielding some of the analogous types are Atranjikhhera and Kakoria. There are 15 types of Kauśāmbī I and II which are present in Atranjikhhera I. Kakoria on the Chandra-prabha (District Varanasi), a chalcolithic-megalithic site, also shares many types with Kauśāmbī I (11 types) and II (75 types). Significantly enough the latter site, has yielded microliths consisting of parallel-sided and blunted-back blades, points and some flakes and cores indicating the use of the crested-ridge technique. Chirand in Bihar is another important site which has yielded as many as 9 pottery-types having their counterparts in the pottery-assemblage of Kauśāmbī I (3 types) and Kauśāmbī II (6 types). Some of the painted pieces of Kauśāmbī II resemble in respect of motifs, their counterparts at Navdatoli III,² Eran I³ and RGP IIB, IIC, and III.⁴ The incised patterns present at Kauśāmbī are also reported either in incisions or in paintings at the sites like RGP IIB and III,⁵ NVT III,⁶ Bara I,⁷ Alamgirpur I,⁸ everywhere in the chalcolithic context.

Thus the early pottery of Kauśāmbī I and II, shares many type and painted and incised motifs with some of the late Harappan and post-Harappan sites of Western India, Central India and the Gangetic belt. This points to its antiquity and early origin. A link with the chalcolithic culture-complex and Harappan traditions seems to be ultimately indicated.

Kauśāmbī III: A comparison of the pottery assemblage of Kauśāmbī III with other sites of Gāṅgā valley, especially with those from Atranjikhhera III, has brought into focus the following characteristic features of the pottery of the period under discussion :

(I) The Black-and-Red ware, the Black slipped ware and the red ware associated with the Painted Grey Ware of this period have a wide diffusion, and in case

¹Rao, *op.cit.* (1962 & 1963), p. 87, fig. 27, T1-T13; p.89, fig. 28, T21; p. 91, fig. 29, T29-30, 33, 34, 37; p. 93, fig. 30, T51a, 57; p. 99, fig. 33, T1-T7; p. 102, fig. 34, T21, 23, 31; p. 110, fig. 37, T1, 4,6; p. 113, fig. 38, T. 31b, 41, 42; *I.A.* 1957-58, fig. 10B, No. 4, 9; *I.A.* 1958-59, fig. 9a, No. 3, 11, 14, 17; *I.A.* 1957-58, fig. 8, No. 1, 2, 4, 8; *I.A.* 1957-58, fig. 6, No. 5, 6; fig. 7, No. 6; *I.A.* 1959-60, fig. 15, No. 5, 8, 21; *I.A.* 1959-60, fig. 16, No. 2, 14; *I.A.* 1958-59, fig. 24, No. 2, 3, 6, 17; *I.A.* 1963-64, fig. 11, No. 1, 2, 8, 9, 12, 18, 19; fig. 12, No. 1, 4, 6, 13, 14, 15; *I.A.* 1959-60, fig. 6, No. 1, 7, 9, 10, 16 and 17.

²Sankalia and others, *op.cit.* (1958), p. 119, fig. 46, Ia-lk.

³*I.A.* 1962-63, Pl. XXXIA, No. 1, XXXIB, No. 2; *I.A.* 1963-64, Pl. IXA, No. 1, 7, 9, 11 and 12.

⁴Rao, *op.cit.* (1962 & 1963), Pl. 20B, No. 5; fig. 32, No. B7, B10 and B12; fig. 33, No. 10a; fig. 43, No. 98, 100, 104.

⁵*Ibid.*, fig. 32, B15; fig. 45, No. 131b, 132 and fig. 46, D27-28.

⁶Sankalia and others, *op.cit.* (1958), fig. 56A-VIa, VIIc, b, f, g and fig. 56B, VIIj-VIIq.

⁷*I.A.* 1954-55, Pl. XIIB, No. 7, 8, 15 and Pl. XIA, No. 11, 16.

⁸*I.A.* 1958-59, Pl. LXII-Alamgirpur : sequence of cultures, I, No. 34, fig. 24, No. 4.

of certain sites, viz., Atranjikhhera III, Kauśāmbī III, Kakoria, Chirand IA-IB, Sonapur IA-IB, etc., show complete similarity in fabric, texture and typology.

(II) This element at the sites where it occurs with full-fledged Painted Grey Ware, e.g., Hastinapura II, Atranjikhhera III etc., and also at sites like Kauśāmbī III, Rajghat I, Prahladpur I, Chirand IA and IB where the Painted Grey Ware represents but an effete industry, is derived from the red, Black-and-Red and the Black-slipped wares of the earlier period and represents the core of the pottery-assemblage of the Gaṅgā valley.

(III) It appears that the Painted Grey Ware represents a superimposition on this assemblage even at the traditional sites of the Painted Grey Ware, which had a considerably restricted distribution and continued at these sites when the N.B.P. was the dominant ware in the central Gaṅgā valley.

Our recent studies in the Vindhyas have thrown interesting light on certain aspects of the origin of the Northern Black Polished Ware and the contemporary grey ware and red ware assemblage. Some of the N.B.P. Ware shapes, in fact, represent a proto-N.B.P. stage in type, fabric and polish. In this connexion mention may be made of the following pottery types contained in the present report which belong to this category: T.XXII, XII, XVII, XVIII, XXIII of fig. no. 12. p. 132.

In types these are to be derived from the chalcolithic wares of the Vindhyas from such sites as Banjari-devi,¹ Patharaha,² Deoghat,³ etc. All these sites are essentially pre-N.B.P. and the bulk of the material obtained from them is similar to that from chalcolithic-megalithic site at Kakoria on the Chandra-prabha. The sites in question have yielded Black-and-Red ware, Black slipped ware along with red ware. The sites of Banjari-devi and Deoghat have also yielded microliths in good quantity. Many pottery types can be connected with the similar pottery assemblage at Chirand (IA and IB),⁴ Kakoria, Atranjikhhera III and Hastinapura II (Painted Grey Ware Period).⁵

The analysis confirms the close relationship of the N.B.P. Ware on the one hand, and the grey and red ware of the central Gaṅgā valley, on the other, and

¹A proto-N.B.P. site situated at a distance of nearly 25 miles from Varanasi in its Chakia sub-division at the south-easterly direction.

²A proto-N.B.P. site located at a distance of 14 miles from Mirzapur in the eastern direction on river Koi.

³Situated on the left bank of the Belan in Meja sub-division of District Allahabad, at a distance of 48 miles from Allahabad in south-easterly direction.

⁴*I.A.* 1963-64, fig. 2, T. 2, T. 3, T. 8 and T. 9.

⁵B.B. Lal, 'Excavation at Hastināpura and other Explorations in the Upper Gaṅgā and Sutlej Basins 1950-52,' *Ancient India*, Nos. 10 & 11 (1954 & 1955), T. XIXa and T. XIXb, T. 1, TXa, T. 11a of fig. 11; and T. XLa of fig. 13.

also indicates their common origin from the preceding pottery assemblage of the Vindhyas and the central Gaṅgā valley.

Kauśāmbī in Asian context : It has already been observed in the present memoir that sub-period V (A.D.25–100) ‘witnessed a new impact in ceramic industry and the source of inspiration lay outside the Gangetic valley’.¹ It was also observed that most of the types, “were evolved in north-western India, under the Greek and Saka-Parthian impact and were introduced into the plains of northern India by the Saka-Parthian and the Kuṣāṇas.”² The picture has been further amplified by a comparative study of the Russian material with that from Kauśāmbī. The pottery-types which show connexion between Kauśāmbī and Soviet Central Asia³ can be divided into three groups: (I) Early Group shows contact between Central Asia and India from 500–200 B.C.; (II) the Late Group, further sub-divisible as Late Group IIA and Late Group IIB, throws light on the link between the archaeology of India and Soviet Central Asia between 200 B.C.—first century A.D.; and (III) Late Group III. To this group belong a number of miscellaneous types datable according to the evidence of Kauśāmbī from 200 B.C. to first century A.D.

Early Group I (cylinder-conical) : This group is represented by pottery-types of which the cylinder-conical is the most important. Excavations conducted at Kauśāmbī, particularly in the Ghoṣiārāma area have furnished three important types of this group. They are discovered from the N.B.P. Ware levels and range in date from the 5th century B.C. to 2nd Century B.C. as pointed out earlier. They are widely distributed outside India and have been noticed in Khorezm,⁴ Sogdiana,⁵ Margiana,⁶ Northern Bactria⁷ (U.S.S.R.), South Bactria⁸ (Afghanistan) and Seistan⁹ (Iran). The principal sites are : Koi-Krylgan-Kala, Dingilje, Bazar-kala, Kiyselgir in Khorezm; Afrasiab in Sogdiana; Yaz-depe, Anau and Merv in Margiana; Kalai-Mir and Munchak-Tepe, in Northern U.S.S.R.; Balkh in Afghanistan and Dahan-i Ghul and

¹See below, p. 158.

²See below, p. 158.

³I am extremely obliged to Dr. Y.A. Zadneprovsky, Leningrad (U.S.S.R.) for information regarding the material from U.S.S.R.

⁴M.G. Vorobyiva, *Pottery of Khorezm in Antique Period*, T. 1.

⁵V.M. Masson, *The Ancient farming cultures of Margiana*.

⁶D. Schulamberger, ‘La prospection Archaeologique de la Bactres (Preemptemps, 1947),’ *Syria*, XXVI (1949), pp. 181-88.

⁷R. Ghirshman, *Fouilles de Nad-i-Ali dans le Seistan, Afghan. Revue des Arts asiatiques*, Paris, 1959, vol. XIII.

⁸Diyakonov, *Archaeological excavations in the lower part of the river Kafiringan (Kobadian)*.

⁹Scerrato, ‘Excavations at Dahani-Ghulman (Seistan, Iran),’ *East and West*, vol. 16, (1966).

Nad-i-Ali in Seistan. In these regions the types in question belong to the Achaemenian period between 600-400 B.C.

The cylinder-conical types at Kauśāmbī share with the analogous types of Central Asia all their characteristic elements with the only difference that the Kauśāmbī specimens are smaller in size.

Late Group IIA : The goblets with flat and footed base strike a new note in pottery assemblage of Kauśāmbī. Fig 34, T.192 and 193, are typical representatives of this type of which more variants have been discovered in subsequent excavations. These types¹ which were in vogue here from first century A.D. to third century A.D. were widely distributed in Khorezm (Ferghana valley), Sogdiana and Bactria where they are earlier chronologically and very common, having a large number of variants. They are earlier in date and more numerous at Taxila also.

Late Group IIB : Belonging to the same time-bracket and forming part of the pottery assemblage of Group IIA referred to above, is another category of pottery which seems to be the product of the fusion of Early Group I and Late Group IIA. The group in question was introduced for the first time in 1st century A.D. Under the impact of the Late Group IIA, the pottery types of Early Group I underwent modification but they still retained to a considerable extent the essential character of the cylinder-conical goblets of Early Group I. Some of the types forming this group are included in the present report (fig. 34, T.191, T.194, T.196 and T.180).

Late Group III : Another group of pottery datable from second century B.C. to fourth century A.D. consisting of *surahis* and Enohyas was clearly inspired by foreign influence—Greek-Roman. It was distributed over a wide area in east upto central Gaṅgā valley and in the west and north upto Soviet Central Asian Republics. These types are reported from Tali-Barzu,² Munchak-Tepe (W. Ferghana), Khairabad Tepe, ranging to a period from first century B.C. to first century A.D. Attention may be drawn to a group of decorated sherds with design scratched on external surface after firing (*M.A.S.I.* No. 74, pls. LXVI-LXVIII). The pottery is generally red ware with slip varying from chocolate to bright red and consists of parts of *surahis* or spouted vessels. In a few cases, the pottery is black ware with black slip on the external surface. The designs are invariably scratched on external surface after

¹V.V. Struve and G.M. Bongard-Levin (Ed.), *Ancient India* (Moscow 1964), fig. 17, II, No. 6 (Bactria), 7, 8, 10 (Sogdiana), 9-11 (Khorezm), 1 (Taxila); Marshall, *Taxila*, vol. III, Pl. 124; A. Mandelshtam, *Nomadic Tribes on their way to India*, Pl. 24, fig. 4 etc., Pl. XXVIII.

²B.Y. Stavisky in Struve and Bongard-Levin, *op.cit.* (1964), Fig. 26.

firing. The following patterns may be easily noticed in the plates mentioned above : (1) lattice designs ; (2) lattice designs surmounted by loops; (3) lattice with zigzags below; (4) lattice with triangles; (5) combination of loop, lattice and triangles; (6) triangles formed by double slanting lines, the space between inner ones being filled with horizontal lines parallel to the body; (7) triangles filled by parallel wavy lines arranged horizontally or vertically, and curvilinear designs. These decorated sherds have been recovered from different areas and are fairly distributed at the site. They range in date from first century A.D. to third century A.D. Sherds with this type of decoration have been reported from a number of sites in the Gaṅgā valley and the adjoining region of the Vindhya, especially Jhansi, Chirand, Kotia and Nahush-Ka Tila in Azamgarh. Beyond India, pottery of similar nature has been recovered from the Ferghana valley and Khorezm.¹ In these areas, the pottery is more numerous and the motifs are much varied. The comparison between the materials of these two areas—central Gaṅgā valley and Soviet Central Asian Republics—extends to similarity in fabric also.

The evidence discussed above thus show two stages of contact between India and Soviet Central Asian Republics. According to the evidence from Kauśāmbī, the first period is to be dated from fifth century B.C. to second-first century B.C. and the second from first century A.D. to third century A.D. The dates for the corresponding materials at the Russian sites are, sixth to fourth century B.C. for the second. The fact that 'their predisposing origin are sought outside this region'² was pointed out earlier, the recent study has extended the area of occurrence much beyond the Indian frontier. In the section on the 'Terracotta' of the present report, attention has been drawn to the impact of the foreign influences on the terracotta-industry of the Gaṅgā valley.³ Subsequent excavations have lent further support to this view. The occurrence of Bactrian camel (double humped camel) on the abacus of the capital of a column at KSB with the polish of Aśokan capital, is a significant Hellenistic influence in the Gaṅgā valley. Incidentally these capitals recovered at Kauśāmbī demonstrate the survival of Aśokan art with its characteristic polish in post-Mauryan period and the view is no longer tenable that the Mauryan art died out with Aśoka. These capitals also afford valuable evidence of the modification of Mauryan Art in the post-Mauryan period and sometime under Greek-Bactrian impact.⁴

¹A.N. Bernshtam, *Historical and Archaeological essays on Central Tyan-shan and Pamir-Alaya* MIA. U.S.S.R., No. 26 (Moscow-Leningrad, 1952); Latynin—Some results of Ferghana expedition 1934, *Archaeological Collection of Hermitage* vol. 3, 1963.

²See below, p. 158.

³Sharma, *op. cit.*, pp. 50-53; 60-64.

⁴*Allahabad through the Ages* (Allahabad, 1966), p. 20.

Iron arrow-heads also furnish significant evidence of Greek, Śaka, Kuṣāṇa and Hūṇa impact in these regions.¹ Some of these types e.g., double-tanged arrow-heads, three-bladed arrow-heads and barbed arrow-heads have also been reported from several sites of the Soviet Central Asian Republics.² The use of true arch in first and second century A.D. on a large scale in the construction of the newly discovered palace-complex at the south-western corner of the town is clearly an indication of the influence from across India's western border.³

C-14 Dates (See Chart) :

When the present report was written and submitted for publication, C-14 dates were not available; hence the chronology discussed in Chapter III had to be based exclusively on archaeological evidence. Since the publication was delayed and facility for the C-14 dates became available in the meantime, the opportunity was taken for testing the chronology in its light. A trench was laid across the road which had remained unexcavated in 1949-50, and seven samples were supplied to the Tata Institute of Fundamental Research, Bombay for Radiocarbon analysis. Of these four samples TF 219, TF 96, TF 95 and TF 94 were collected from the material used in the construction of road in different periods. TF 221 is from a pit sealed by layer (12) on which the first road was built. The pit cuts through layers (13) and (14) and overlies layers (15) and (16) which are the earlier two layers yielding the N.B.P. Ware. According to the evidence of stratification,⁴ the pit is posterior to layers (15) and (16) representing the earlier phase of the N.B.P. Ware with an average thickness of 8 ft, 7 in. and this deposit of the N.B.P. Ware constituting layers (15) and (16) underlies the pit. Two samples TF 97 and TF 93 are not from the road material but from layers (6) and (4) intervening between different phases of the road. Of these, layer (6) was disturbed by a pit marked as 2B in the section and sealed by layer (1A). Layer (4) was disturbed by a huge pit 1A sealed by layer (1). The stratigraphic position of these two samples, therefore, is doubtful.

Of the five samples, where the evidence of stratigraphy is unambiguous and clear, TF 221, TF 219, TF 96 and TF 95 offer remarkably consistent chronological evidence and confirm the archaeological sequence proposed in the report in a striking measure. According to the archaeological evidence, the date proposed for the layer (12) of the section is 400 B.C. – 325 B.C. The Radiocarbon date for the same is 500 ± 105 B.C. As the pit cuts through earlier layers (13) and (14) and might have contained material contemporary with either of the layers, there is hardly any discrepancy between the archaeological date, on the

¹Sharma, *op.cit.*, pp. 45-48 and fig. 5-6.

²Mandelstam *op.cit.*, (1966), Pl. No. 41.

³Sharma, *Kuṣāṇa Studies* (Allahabad, 1968), p. 35.

⁴See below, pp. 18-23.

one hand, and Radiocarbon date, on the other. Road I was dated on the basis of archaeological evidence between 350 B.C. and 275 B.C. According to the Radiocarbon determination it can be dated to 440 ± 100 B. C. TF 96 is dated 115 ± 100 B. C. and belongs to Road IV which was dated on the basis of archaeological evidence from 50 B. C. to 25 A. D. TF 95, from Road V, is dated to 50 ± 125 A. D. On archaeological grounds its date was proposed from A.D. 25 to 100 A.D. Though in all the four cases the variation between the Radiocarbon dates and archaeological dates is not very striking, yet in all the cases the proposed archaeological date is later and the variation ranges from 25 to 100 years. It would also be observed that the variation is less in the case of TF 95 and TF 96. From the layers from which these samples were collected, a very large number of coins were also obtained. From the layer from which TF 96 was sent, coins of kings Brihaspatimitra II and Sūryamitra were obtained. On the other hand from Road V yielding TF 95 and the contemporary layers, large number of Kuṣāṇa coins and antiquities were recovered. The availability of the datable material and the coins of the different kings account for the correctness of the archaeological dates and its remarkable correspondence with C-14 dates. TF 219 and TF 221 belong to the layers where the datable material is comparatively scanty and the chronology was proposed on the assumed average of one particular period of habitation and hence the range of variation between archaeological dates and C-14 date is comparatively large. But it is satisfying to note that in all cases, in proposing the archaeological dates, there was a tendency to maintain a conservative approach. TF 94 from Road VI gives a date much earlier, e. g. 50 ± 95 B. C. than the proposed archaeological date, but this apparent contradiction can easily be explained since the road material consisting of brick-bats and charcoal, etc., was collected from different areas and the earlier material might have found its way in the material that was used in the making of the road.

Since TF 93 and TF 97 came from layers disturbed by pits they do not have the same stratigraphic value, but since the two layers were disturbed by pits sealed by layers (IA) and (I), they also do not disturb the uniformity of the evidence. The evidence of C-14 dates has, thus, given a new foundation for the archaeological dating which form the basis of this report. Since the N. B. P. Ware deposit, 8ft. 7 ins., in thickness predates pit 10 C, which had yielded TF 221 datable to 500 ± 105 B. C., there can be hardly any doubt that the N. B. P. Ware had a much earlier history at the site and its beginning cannot be brought down below 600 B. C. A still earlier beginning is in fact indicated.

Impact of Radiocarbon dates on the Date of Kaniṣka and the Kuṣāṇa Epoch:

The date for the Kuṣāṇa level on the archaeological ground was proposed as A. D. 25-100, whereas the Radiocarbon date for the same is 50 ± 125 A. D. This evidence tends clearly to suggest the date of Kuṣāṇa epoch in the second half of first century A. D. and first half of second century A. D. As such, this

CARBON—14 DATES FROM KAUSAMBI (KSB I-III—ÁSOKAN PILLAR AREA)

| <i>Material</i> | <i>Locus</i> | <i>Cultural period</i> | <i>Structural phase (S.P.)</i> | <i>Road phase or Layers</i> | <i>Arch. date</i> | <i>C-14 determination at 5730 years as half value</i> | <i>Lab. or station index</i> | <i>Published references</i> | <i>Remarks</i> |
|-----------------|--|------------------------|--------------------------------|-----------------------------|-------------------------|---|------------------------------|-----------------------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Charcoal | KSB I-III, RD, 5-7, 4.3 m. below surface | II | P.S. V | PIT (B) SB (12) | 400 BC 350 BC | 500 ± 105 BC | TF 221 | See below footnote 1 | |
| Charcoal | KSB I-III, RD, 2-7, 3 m. below surface | II | S.P. IA | Road I | 350 BC 275 BC | 440 ± 100 BC | TF 219 | See below footnote 2 | |
| Charcoal | KSB I-III, RD, 4-6, 2.03 m. below surface | III | S.P. IV | Road IV | 50 BC- 25 A.D. | 115 ± 100 BC | TF 96 | See below footnote 3 | A few rootlets were visible in sample. |
| Charcoal | KSB I-III, RD, 2-5 1.65 m. to 1.7 m. below surface | III | S.P. IV | Layer (6) | 50 B.C. 25 A.D. | A.D. 260 ± 110 | TF 97 | See below footnote 4 | " |
| Charcoal | KSB I-III, RD, 4-6, 1.44 m. below surface | III | S.P. V | Road V | A.D. 25- A.D. 100 | A.D. 50 ± 120 | TF 95 | See below footnote 5 | " |
| Charcoal | KSB I-III, RD, 3-5, 1.25 m. below surface | III | S.P. V | Layer (4) | A.D. 25- A.D. 100 | A.D. 245 ± 110 | TF 93 | See below footnote 6 | " |
| Charcoal | KSB I-III, RD, 4-5, 1.33 m. below surface | III | S.P. VI | Road VI | A.D. 100 to A.D. 175 | 50 ± 95 B.C. | TF 94 | See below footnote 7 | " |

¹D.P. Agrawal, Sheela Kusumgar and D. Lal, 'The measurement of radio-carbon activity and some determinations of ages of archaeological samples', *Current Science*, 34, No. 13 (July 1965), p. 5.
²*Ibid.*

³Agrawal *et al. op.cit.* (May 1964), p. 268; *Radiocarbon*, 6 (1964), pp. 230-31.

⁴Agrawal *et al. op.cit.* (Jan. 1964), p. 42; *Radiocarbon*, 6 (1964), pp. 230-31.

⁵Agrawal *et al. op.cit.* (May 1964), p. 268; *Radiocarbon*, 6 (1964), pp. 230-31.

⁶Agrawal *et al. op.cit.* (Jan. 1964), p. 42; *Radiocarbon*, 6 (1964), pp. 230-31.

⁷Agrawal *et al. op.cit.* (May 1964), p. 268; *Radiocarbon*, 6 (1964), pp. 230-31.

lends support to the view that A. D. 78 was the first regnal year of Kanishka I. This conclusion is further corroborated by the Radiocarbon dates of the pre-Kuṣāṇa (Mitra) and post-Kuṣāṇa levels (Magha and the subsequent dynasties). Attention may be invited to the Radiocarbon dates of the excavations of Shaikhan-Dheri¹ (Pakistan). According to the excavator the latest date of the two relevant Radiocarbon samples (93 A. D. 1. SHK—Location B 4. Stratum (2) $1990 \pm 120 = 147$ B. C. to A. D. 93) 2. UW 78 SHK—Location B 4, Stratum (2) $1940 \pm 70 = 47$ B. C.—A. D. 93) “falls within the reign of Kanishka I in the Middle Kuṣāṇa period.”

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University of Allahabad

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¹*Ancient Pakistan*—Bulletin of Department of Archaeology, University of Peshawar, Vol. II, 1965-66, pp. 25-26.

CHAPTER I

INTRODUCTORY

1. LOCATION AND TOPOGRAPHY (fig. 1 ; pls. I-IV A)

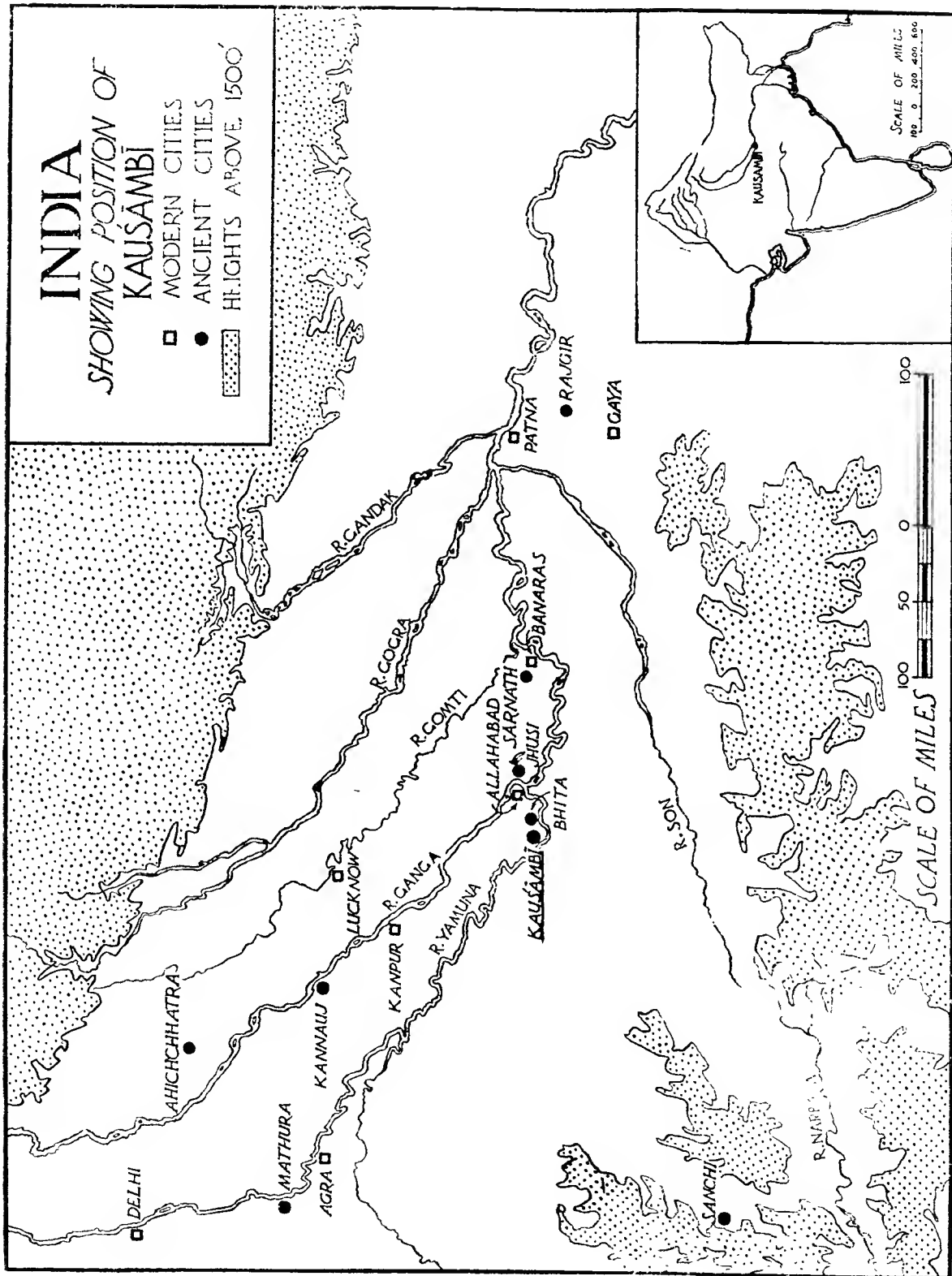
THIRTYTWO miles south-west of the holy city of Prayāga, modern Allahabad, is situated, on the left bank of the Yamunā, a mass of mounds with extensive traces of ancient habitation. Enclosed by villages now known as Kosam-khiraj, Garhwā, Kosam-inam and Anwān-kunwān, these mounds have been identified with the remains of ancient Kauśāmbī. While 'Kosam' is a corruption of Kauśāmbī-Kosambī, the word Garhwā signifies a fort. Thus, the names of the two villages together indicate that the ancient Kauśāmbī, over the ruins of which they are situated, was a fortified town. From a distance the ruins give the impression of an imposing hillock, which, when approached nearer, reveals itself as a chain of rolling mounds, standing high above the surrounding plains (pls. II-III), girdled on the south by the Yamunā. The background to the entire scene in the southern direction is provided by the Vindhyan range peeping through the horizon at not a great distance beyond the river.

These mounds are the remnants of the derelict ancient rampart that once protected the capital of the Vatsas. The entire chain has a peripheral circuit of 21,170 ft., approximating to 4 miles. The rampart proper has an average height of 30 to 35 ft. from the surrounding field-level. The towers or the bastions, however, are considerably higher, some of them, particularly those on the north-western and the north-eastern corner, being as high as 70 ft. The lengths of the different faces of the fortress are as follows¹ :—

| | | |
|-------|-----|-----------|
| North | ... | 5,200 ft. |
| South | ... | 5,980 ft. |
| East | ... | 5,890 ft. |
| West | ... | 4,100 ft. |

On plan the fortress forms an irregular oblong, the irregularity being the outcome of a deliberate planning which conformed to the ideas of strategy and defence prevalent in ancient India. The entire periphery of the rampart is marked by a series of salients or bastions, with the space in between filled with rammed mud. Such a course must have been suggested not only by considerations of economy of labour but also by the idea that the multiplication of bastions would add to the defensive and structural strength of the rampart.

¹ Cunningham, gives the following measurements —
North front, 4,500 ft. South front, 6,000 ft. East front, 7,500 ft. and West front, 5,100 ft. (*Arch. Surv. Ind.*, I, Simla, 1871, p. 346)



G. K. KAPOOR

FIG. I

The situation of gates on all the four sides of the rampart calls for particular attention. They are invariably situated between the converging heels of two salients.

Away from the fort-wall, at a short distance from each gate, are situated two mounds which evidently flanked the road leading to the gate. These mounds were, it seems, intended to be outposts, the entire chain of which served as another part of the defence-system of Kauśāmbī.

Between the outer face of the rampart and the mounds there are clear traces of a deep moat¹ which encircled the entire rampart. Though erosion from the mounds through rain-gullies, together with the annual inundation of the Yamunā, has almost silted the moat on the eastern and western sides of the city, traces of it are clearly discernible on the northern side. Not only is the present level of the moat lower than the base of the rampart but also it is clearly demarcated by the composition and colour of the soil. The rampart is a huge mass of mud having a brownish brick colour and littered with brickbats, sherds and ashes, while the moat is distinguished by alluvial clayey silt.

About a mile away from the outposts described above, there is another ring of detached and fast-vanishing mounds that once encircled the city. Obviously they formed the outermost line of the defence-complex at Kauśāmbī.

The defences, as a whole, give evidence of an advanced knowledge of the principles of fortification. This is nowhere better illustrated than at the eastern gate² which is so situated that the two salients enclosing it served the purpose of curtains, while a bund in front completely screened it from outside view. The passage through this curtained gate was not direct and straight but was through the salient, south of the gate and the bund in front (pl. III B).

On the outer face, the rampart, even in its abandoned condition, is fairly steep, often difficult to scale, overgrown as it is with weeds, shrubs, bushes and even small trees Q (pl. II B).

Within the fortress, however, successive occupations, spread over several centuries, raised the habitation-level to such an extent that the last occupation inside the fort was practically on the extant top of the rampart. This phenomenon implies a phase in the life of the city when, though it was fully inhabited, there was no necessity of maintaining the defences, which gradually became impaired. The rise in the occupation-level must have been considerably accelerated when the numerous temples, *saṅghārāmas*, palaces and houses of common people were razed to the ground, partly through neglect and partly by the inroads of the invaders.

A stone pillar, generally ascribed to Aśoka, is the only noteworthy relic available on the present surface. It stands on what appears to denote an ancient thoroughfare and was also noticed by Cunningham in 1861.³ In spite of repeated efforts since then, its capital, if any existed at all, has not been discovered.

The entire surface of the enclosed fortress is covered with brickbats of varying sizes. The cultivator in this area has to wage a relentless struggle against bricks

¹ G R Sharma, *The Excavations at Kauśāmbī* 1957-59, pp 384

² I A, 1954-55; pl. XXXI; Sharma, G R., *op. cit.*

³ Cunningham, *op. cit.* p. 309

and ruined wall-tops, partly revealed but mostly concealed beneath the surface, covered only by a thin layer of earth about 6 in. in depth. The wheels of the bullock-cart sometimes bring an entire wall to the surface. The ploughshare often furrows across old structures.

Looking from an elevation within the fortress, one is immediately struck by the regular depressions starting from the gates and converging inside towards a central mound that seems to dominate the entire scene. Without doubt, one has before oneself in these depressions the ancient road-system of the town. In addition, there are a few shallow pond-like hollows, with collapsed sides and flat bottoms. Whereas their sides show a reddish appearance on account of the bricks that might have once lined them, the earth at the bottom is clayish, indicating their use as tanks. Near some of them also stand a few isolated and peaked mounds. What can they represent but the relics of old temples which were once so numerous in the city¹?

That the ancient city extended even beyond the fortification is evidenced by traces of habitation, brickbats and pottery outside the fortified area. The entire city, comprising the portion within the rampart and outside it, must have been about 3 miles square and thus nearly as large as modern Allahabad or Varāṇasī.

2. DISCOVERY AND IDENTIFICATION

The first archaeologist to visit these ruins was Alexander Cunningham. In 1861, on information from E. C. Vaylay, supplemented by that of B. Shiva Prasad of the Education Department, he came to see these ruins. Although he did not discover any relics or record conclusively to establish their identification with the ancient Kauśāmbī, he felt quite 'certain that the present Kosam stands on the actual site of the ancient Kosambi'.² In retrospect, his identification, therefore, must be regarded as a flash of remarkable intuition. Smith and Watters subsequently questioned this identification,³ but subsequent researches have fully vindicated Cunningham's view.⁴

3. KAUŚĀMBI IN LITERATURE⁵

A. THE VEDIC AND EPIC TRADITIONS

Kauśāmbī was the capital of the Vatsas or the Vamsas, a branch of the Indo-Aryan family. The *Aitareya Brāhmaṇa* mentions them along with the Kuru-Pañchālas and the Uśīnaras.⁶ The *Kauśītaki Upaniṣad* and *Gopatha Brāhmaṇa* also mention the Vatsas in association with the Kuru-Pañchālas, Uśīnaras, etc.⁷

¹ T. Watters, *On Yuan Chwang's Travels in India*, I (London, 1904), p. 366.

² Cunningham, *op. cit.*, p. 305.

³ Cunningham, *The Ancient Geography of India*, (ed. S. N. Mukundar, Calcutta, 1924), p. 709.

⁴ D.R. Sahni, *Jour. Roy. As. Soc.*, 1927, pp. 689 ff; G.R. Sharma, *Ann. Bibl. Ind. Arch.* (Kern Institute, Leyden), vol. XVI, 1958, pp. xxxi-xlv.

⁵ B.C. Law, *Kauśāmbī in ancient Literature*, Mem. Arch. Surv. Ind. no. 60 (Delhi, 1939).

⁶ *Aitareya Brāhmaṇa* VIII. 14.

⁷ *Kauśītaki Upaniṣad* IV, *Gopatha Brāhmaṇa*, 1. 2. 9.

The antiquity of the Vatsas, as also their place in the Indo-Aryan family, is thus beyond dispute.

There is equally valid reason to believe that the city of Kauśāmbī, famous in literature as the capital of the Vatsas, existed at the time of Janaka.¹ The *Śatapatha Brāhmaṇa* mentions Proti Kausurubindī, a pupil of Uddālaka Āruṇi, the contemporary of Janaka, as 'Kauśāmbeya', which, according to Harisvāmin, means 'a native of Kauśāmbī'. It is, therefore, fairly plausible that the city of Kauśāmbī existed in the period of the Brāhmaṇas and Upaniṣads. If Raychaudhuri's view that Nicakṣu was a contemporary of Janaka² is correct, it further strengthens the argument that Kauśāmbī existed in the period of Janaka and was the seat of the Vatsas who figure prominently in the Brāhmaṇa literature. It is interesting to recall that it was during this very period, according to the Purāṇas, that Nicakṣu, the descendant of the Pāṇḍavas, transferred his capital from Hastināpura to Kauśāmbī. Although the reason for this change is said to be the washing away of a considerable part of Hastināpura as a result of floods of the river Gaṅgā, it is not improbable that the transfer was made imperative by a variety of other reasons of which one might have been the devastation of the Kuru country by the Mātachi, as also possibly the upheavals in the Kuru family itself.³ Whatever the reason of the transfer, the tradition does not contain the slightest suggestion that the city was founded by Nicakṣu, so that we can safely infer that during the time of that ruler Kauśāmbī had already grown into a settlement of sufficient importance to attract his attention and induce him to make it his capital. The city, therefore, must have come into existence not later than the Mahābhārata times, if not earlier.

Kauśāmbī also figures prominently in the movements of the Aryans in the Madhyadeśa and beyond. According to the *Mahābhārata*, the city was founded by prince Kuśāmba, the third son of the Cedi king Uparicara Vasu. The *Ramāyaṇa*, on the other hand, has it that prince Kuśāmba, the founder of Kauśāmbī, was a son of Kuśa, at whose behest his four sons founded four famous cities viz. Kauśāmbī, Mahodaya, Dharmaraṇya and Girivraja.

The tradition of the foundation of Kauśāmbī by Kuśāmba is corroborated by the *Kaśikā* which, in illustrating a grammatical rule of Pāṇini, confirms that Kauśāmbī was founded by Kuśāmba.

B. THE BUDDHIST TRADITION

According to the *Paramatthajyotikā*, the commentary on the *Sutta-Nipāta*, Kauśāmbī was the hermitage of the sage Kośāmba, after whom it came to be known by that name. Buddhaghōṣa records that Kauśāmbī was so named because in founding the city, a large number of *kuśāmba*-trees were uprooted. Buddhaghōṣa seems to echo a tradition also known to the Jains, though in a slightly different

¹ H.C. Raychaudhuri *Political History of Ancient India* (Calcutta, 1953), p. 70

² *Ibid.*, p. 69.

³ *Ibid.*, p. 69

version : according to the *Jaina Vividha-tīrtha-kalpa*, Kausāmbī was so called because it abounded in *kuśāmba*-trees.

The Buddhist tradition also throws light on the situation and importance of Kausāmbī. The legend of Vakkula proves that Kausāmbī was on the Yamunā, so that the child Vakkula, after being dropped into that river at Kausāmbī, flew down the Gaṅgā to Vārānaśī, where he was accidentally rescued. The *Chīvarakhandhaka* of the *Mahāvagga* relates the interesting, though pathetic, tale of the famous physician Jīvaka of Rājagriha. The physician was sent by his master, the king of Magadha, to Caṇḍa Pradyota, the king of Ujjain. The erratic king of Ujjain was cured, though not without annoyance, by the medicine administered to him by Jīvaka, but the latter had to fly from Ujjain to save himself from the wrath of Pradyota. In this flight from Ujjain to Rājagriha, Jīvaka passed through and halted at Kausāmbī.

According to the same text, Buddha became disgusted with the internecine quarrels of the monks of the Ghoṣitārāma monastery at Kausāmbī. When in their obstinacy they refused to listen to right counsel, Buddha, in protest, left Kausāmbī for Śrāvastī. The journey between the two places lay through Bālakalona Kāragāma and Pāṛileyaka. In all probability Śāketa also lay on this very route.

The *Chullavagga* (*Khandhaka* 12) records how the Bhikshu Yasakakanda-putta, when he had quarrelled with the monks of Vaiśālī, came to Kausāmbī and convened an assembly of the monks from Pāvā and also from the whole of the south. His selection of Kausāmbī as the seat of operation against the monks of Vaiśālī might have been largely due to its geographical situation. With the Vindhyan series, only 14 miles south of Kausāmbī, the city probably served as the gateway to the south. The *Chullavagga* mentions a land-route from Kausāmbī to Ahogaṅga Parvata, from Ahogaṅga Parvata to Soreya, from Soreya to Sāṅkāśya, from Sāṅkāśya to Kānyakubja and thence to Udumbara, Aggalapura and Sahajāti, the last-mentioned place being reached also by boat. As wandering teachers must have generally followed well-established routes, these references clearly show that Kausāmbī was an important centre on the principal routes of India, which were as follows¹ :-

1. *South to north-east* : this connected Pratiṣṭhāna with Śrāvastī and had Māhiṣmatī, Ujjayinī, Gonaddhiya, Vidiśā, Kausāmbī, Śāketa, Kapilavastu, Pāvā, Kuśinagara and Vaiśālī as the halting stations.

2. *East to west* : this land-route, as is clear from the *Chullavagga* (*Khandhaka* 12), connected Kausāmbī with practically all the important cities of upper Madhyadeśa, viz., Kānyakubja, Soreya, Sāṅkāśya, etc. The main route was along the principal rivers, the Gaṅgā and the Yamunā. Sahajāti was the terminus of the river-traffic on the Gaṅgā and Kausāmbī on the Yamunā.

Kausāmbī was thus an important emporium for the inland trade of ancient India. It was also one of the six most important cities in the time of Buddha. The land-routes from north, south, east and west converged on this point.

¹ Rhys Davids, *Buddhist India* (London, 1903), pp. 1031

With such extensive means of communication and consequent facilities of trade and commerce, Kauśāmbī soon grew into one of the important cities of northern India. According to the *Mahāparinibbāna-Sutta*, while Buddha was contemplating to put an end to his earthly career at Kuśinagara, Ānanda, his devoted disciple, requested him to choose instead one of the large cities like Campā, Rājagṛha, Śrāvastī, Śāketa, Kauśāmbī and Vārāṇasī, for besides being very populous, these cities were also inhabited by very rich, pious and religious-minded Brāhmaṇas, Kshatriyas and Vaiśyas.

Kauśāmbī, as is thus clear from the gleanings from Buddhist literature, was an important commercial as well as religious centre. A large number of Buddhist monasteries sprang up in and around the city during the very life-time of Buddha and subsequently attracted pilgrims from all over the Buddhist world.

The Buddhist literature corroborates and supplements the picture of the Vatsas and their capital, Kauśāmbī, as depicted in the Vedic sources. The Vatsas continued to be powerful even in the times of Buddha. The *Anguttara Nikāya*¹ mentions the land of the Vamsas (Vatsas) amongst the sixteen Janapadas into which northern India was divided at the time of Buddha and which included many of the old Janapadas of the Brāhmaṇa and Upaniṣad periods together with a few new ones that came into prominence later on. Besides the Vatsas, these comprised Aṅga, Magadha, Kāśī, Kosala, Vṛjī, Malla, Matsya, Sūrasena, Aśmaka, Avanti, Gandhāra and Kamboja. The *Janavasabha-Suttanta*² couples the Vatsas with the Cedis and includes them amongst the prominent groups of peoples then ruling in India viz., Kāśī, Kosala, Vṛjī, Malla, Chedi-Vamśa, Kuru-Pañchāla and Matsya-Sūrasena. According to the *Anguttara-Nikāya*,³ the land of the Vatsas was rich and prosperous and abounded in seven kinds of gems.

(C). LATER TRADITIONS

Later traditions, both Buddhist and Brāhmanical, also contain accounts of the Vatsas and the last Paurava king, the famous Udayana. Rarely has a royal tradition dominated literature for so many centuries as the story of Udayana. His life and romance have provided material for the Pāli *Udena-vattu*, the Sanskrit *Makandikā-vadana*, *Meghadūta*, *Kathāsaritsaṅgar*, *Svapna-Vasavadattā*, *Pratijñā-Yaugandharayana*, *Ratnavali* and *Priyadarśikā*, as also the *Brahma-khaṇḍa* of the *Skanda-Purāṇa*, Jaina *Vividha-tīrtha-kalpa*, *Lalitavistara* and Tibetan Buddhist literature. According to the combined evidence of this extensive literature, as also of the Pāli *Piṭakas*, the two central threads in Buddhistic tradition relating to Kauśāmbī were : (i) king Udayana and (ii) Buddha and his religion.

D. ACCOUNTS OF THE CHINESE PILGRIMS

Fa-hien, who visited India early in the fifth century A.D., has left an account of Kauśāmbī. This country, according to him, was situated 13 *yojanas* to

¹ *Anguttara-Nikāya* (Pali Text Society), London, I. 1879, p. 234.

² *Digha Nikāya* (Pali Text Society), 1880, II. p. 200.

³ *Anguttara-Nikāya*, IV. pp. 252, 256, 260

the north-west of Sarnath. He mentions a monastery, called the Garden of Gosira (*Gosira-vana* or *Ghoṣitārāma*), where Buddha once dwelt. In his times there were very few priests who mostly belonged to the Hīnayāna sect. Some scholars are of the opinion that Fa-hien never personally visited Kauśāmbī and that his record about the site was essentially based on hearsay.

Hien Tsang, however, has left a detailed and valuable account of Kauśāmbī as he saw it during his travels in India (A.D. 630-46). From Prayāga the pilgrim went south-west through a forest infested by wild elephants and other fierce animals. After a journey of 500 *li* (100 miles), he reached the 'Kai-Shang-mi' (Kauśāmbī) country. This country, according to him, was 600 *li* in circuit and its capital Kauśāmbī, more than 30 *li* in perimeter. It was a fertile country with a hot climate; the principal produce was rice and sugar-cane. The people were enterprising and fond of arts, and were cultivators of religious merits. There were more than ten Buddhist monasteries but all in utter ruins, and the brethren, who were above three hundred in number, were the adherents of the Hīnayāna. There were more than fifty Deva temples, and the non-Buddhists were very numerous.¹

The people of Kauśāmbī, according to Beal's rendering of Hien Tsang's account, were hard and rough.² This reminds us of a similar statement in the *Lalitavistara*.³

4. EPIGRAPHICAL AND NUMISMATIC DATA

The earliest archaeological material relating to Kauśāmbī is the inscription of Aśoka on his pillar in the fort at Allahabad. The inscription reads⁴ :

1. [Devānam*] [p]iye ānapayati Kosambiyam maham(a)ta
2.(sa)ma[ge ka]t[e] sa[m]gh[a]si no l[a]hiye
3.[saṅgham bhā]khāti bhikh[u] v[ā] bhikh[u]ni vā[se pi]chā
4. [o*]dāt[ā]ni duṣāni [sa]namdhāpayitu a[nāvā]sas[i ā]v[ā]sayiy(e)

The *saṅgha* during this period was threatened with schism. Aśoka made an all-out effort to restore unity in its ranks and did not shrink from making use even of his normal administrative machinery for the purpose. The *mahāmātra* at Kauśāmbī was given very clear instructions to maintain unity in the *saṅgha* and banish the erring monks, if necessary. The same edict was engraved on the pillars at Sāñchī and Sarnath, evidently because these two places, together with Kauśāmbī, had important Buddhist establishments, the welfare of which the king regarded as his own concern. Kauśāmbī remained during the time of Aśoka, an important centre, probably the headquarters of a province of the empire. That Aśoka took a keen interest in Kauśāmbī is also proved by the statement of Hien Tsang, who records

¹ Watters, *op. cit.* p. 366

² Beal, *Buddhist Records of the Western World*, I (London 1906), p. 235

³ Lehmann, ed. *Lalitavistara*, quoted by Law *op. cit.*, p. 9.

⁴ E. Hultzsch, *Corpus Inscriptionum Indicarum*, I (Oxford, 1925) p. 159.

that Aśoka had built a *stūpa* about 200 ft. high within the monastery of Ghoṣitā-rama, where Buddha had preached for several years.¹

Another inscription of Aśoka on the same pillar records a number of endowments by his second queen, Kāruvākī, the mother of prince Tivara.² These endowments relate to large mango-groves, rest-houses, places of charity, etc. This proves that the queen was likewise interested in Kauśāmbī.

'The uninscribed cast coins from Kauśāmbī', writes Allan, 'belong to a period upon which neither Sanskrit nor Pāli literature throws any light...' Excepting about a hundred common square cast coins with the elephant and Buddhist symbols, which are common on other sides, the coins found at Kauśāmbī form a distinct local group linked together by common types.

'The coins of Kauśāmbī', continues Allan, 'are all of bronze, and like those of Ayodhya and the Audumbaras, fall into two classes, an earlier one of round cast pieces of purely Indian type quite free from any foreign influence, and a later, of struck coins. The characteristic types of Kauśāmbī which prevail throughout the series are a bull and a tree in railing'.³

The inscribed cast coins from the site are a fruitful source for the reconstruction of the history of this area from the second century B.C. up to the beginning of Kuṣāṇa rule at Kauśāmbī. The earliest inscribed coins e.g., those of Brhaspatimitra I and Sudeva are connected with the uninscribed cast coins from the site in style, type and date. On grounds of palaeography these coins have been assigned to the second century B.C.⁴

The struck coins of Aśvaghosha⁵ and Parvata are perhaps the earliest of this series, with those of Brhaspatimitra II, Agnimitra and Jyeṣṭhamitra belonging to the next group. Allan has assigned them to the end of the second century or the beginning of the first century B.C.⁶ Altekar's examination of the rich collection of Kauśāmbī coins of B. M. Vyas of Allahabad has added considerably to the list of the Mitra kings of Kauśāmbī. New kings, altogether unknown from any other source, such as Rājamitra, Rajanimitra, Prajāpatimitra etc., have come to light.⁷ The gap in our knowledge of the history of this region will be filled to a considerable extent if the chronological sequence and the relationship of these kings to one another can be established.⁸

¹ Watters, *op. cit.*, p. 369

² Hultzsch, *op. cit.*, p. 158

³ J. Allan, *Catalogue of the Coins of Ancient India* (London, 1936), p. xciv.

⁴ See below Chapter IX

⁵ *Ibid.*, p. xvi.

⁶ *Ibid.*, pp. xvi and 108

⁷ A.S. Altekar, in *Jour. Numismatic Soc. Ind.* IV, pp. 1 ff

⁸ Opinions differ about the identity of the so-called 'Mitras' or 'Neo-Mitras'. They made their appearance, as is known from their coins, in Kauśāmbī, Pañcāla, Ayodhyā and Mathurā during the 2nd—1st century B.C. Further, the names of two Mitra Kings, i.e. Brahmanitra and Indramitra find mention in the Bodhi Gayā railing inscriptions. Jayaswal, Rivett-Carnac and Raychaudhuri are inclined to identify some of them including Agnimitra of Kauśāmbī and Pañcāla with the successors of Puṣyamitra Śuṅga. According, however, to Cunningham, Smith, Allan and Altekar, the 'Mitra' coins were issued by the local dynasties of Kauśāmbī, Pañcāla, Ayodhyā, Mathurā, etc., and they had perhaps nothing to do with the Imperial Śuṅgas, for most of the kings represented in the coins do not find place in the list of the Śuṅga kings as found in the *Purāṇas*. In the present state of our knowledge, it is not possible to say anything definitely about the relationship of the Imperial Śuṅgas with the 'Mitras' of the coins found in Kauśāmbī, Pañcāla and other places as referred to above. It is, however, hoped that excavations of the related sites might throw some light on the point.

Evidence of the Kuṣāṇa conquest of Kauśāmbī is furnished by the Bodhisattva Image inscriptions of Buddhāmītra of the years 2 and 3 (?) of Kanīṣka¹. A fragmentary stone inscription of Vaṣiṣka, recently acquired by the present Expedition from village Garhwa, proves that Kauśāmbī remained a Kuṣāṇa centre even during the reign of Vaṣiṣka. But more conclusive evidence is furnished by a sealing of Kanīṣka recovered from the excavation (below, p. 19; pl. LII, 4).

The Maghas succeeded the Kuṣāṇas at Kauśāmbī. The Purāṇas speak of nine kings in the Magha dynasty, but so far we know of only eight kings from inscriptions and coins. A good deal of our information about the Maghas is derived from the coins collected by Vyas from Kauśāmbī.²

According to Altekar,³ the Maghas were succeeded by King Nava. He has also identified a coin of King Puṣyaśrī,⁴ whom he places in the middle of the fourth century A.D. The successor of this ruler was, in his opinion, ousted by Samudragupta.⁵

The most important record of the Gupta period is the inscription of Samudragupta, inscribed on the same pillar which bears the Aśoka inscription. Jayaswal⁶ divides Samudragupta's wars in Āryāvarta into two parts, one before and the other after the southern expedition. According to him, Samudragupta, in his first campaign, defeated a few kings viz., Aeyuta, Nāgasena and probably Gaṇapatināga. As a result of this campaign, the prince of the Koṭa family was captured and Samudragupta had the pleasure of entering Pāṭaliputra. King Aeyuta was a ruler of Ahicchatra, Bareilly District, Uttar Pradesh. King Nāgasena ruled over Padmāvati, modern Pawa, Gwalior, and Gaṇapatināga was probably a ruler of Mathurā. The routes from Mathurā, Ahicchatra and Padmāvati to Pāṭaliputra certainly lay through Kauśāmbī.⁷ Therefore, as Jayaswal observes, the most convenient place upon which the rulers from Ahicchatra, Mathurā and Padmāvati could have converged was Kauśāmbī. The battle at Kauśāmbī turned the scale of Samudragupta's fortunes in his favour. There seems to be great truth in the statement of Jayaswal that the proclamation of this victory on the Kauśāmbī Allahabad Pillar seems to convey that meaning.⁸

Samudragupta was probably the first Gupta emperor who established his rule over Kauśāmbī. We have ample evidence to show that the city of Kauśāmbī remained in the Gupta dominions upto the time of Budhagupta. It appears from the recently-discovered seals⁹ of Toramāṇa and Hūṇarāja that the Gangetic valley and its chief centre, Kauśāmbī, were wrested from the Guptas by the great Hūṇa leader, Toramāṇa.

¹ K. G. Goswami, *Epigraphia Indica*, XXIV (1937-38), pp. 210-11.

² Altekar, *Jour. Num. Soc. Ind.* IV (1942), pp. 10-11.

³ *Ibid.*

⁴ *Ibid.*

⁵ Altekar, *New History of the Indian People—Gupta-Vākātaka Age*, p. 43; for the position of Nava see below, p. 83.

⁶ K. P. Jayaswal, *History of India, 150 A.D. to 350 A.D.* (1933), p. 132.

⁷ Rhys Davids, *op. cit.*, p. 102.

⁸ Jayaswal, *op. cit.*, p. 134.

⁹ *Indian Archaeology*.

The subsequent history of Kauśāmbī till the period of the consolidation of Harsa's rule over northern India is shrouded in complete darkness. The next notice of Kauśāmbī is by Hiuen Tsang. His description of the city creates the impression that at the time of his visit the city was more or less on the decline, with the famous Buddhist establishments, like the Ghōṣitārama, the Kukkuṭārama and the Pavariya gardens in mere ruins. Nevertheless, the city had a large Hindu population and more than seventy Deva temples.

After this, there is again a vacuum in the records relating to the city. We know nothing about it till the veil is lifted by the Karā inscription of the Pratihara king Yaśapāla (circa A.D. 1027-1036). The inscription refers to the grant of the village of Payatara (modern Pras or Parsihā) in the Kauśāmbī *maṇḍala* to Māthura Vikāta of Prabhāsa (Pabhosa). N. N. Ghosh infers from this inscription, as also from the Jhusī copper-plate inscription of Trilocanapāla, that Kauśāmbī was in the eleventh century an administrative sub-division of the Pratihara Kings of Kanauj.¹

A short inscription in Nāgarī on the pillar at Kauśāmbī mentions 'Mogal Patisāh Akbar Patisāh Gāji'. Another inscription on the same pillar is dated *saṃvat* 1621 or A. D. 1564 and records the prayers of five leading goldsmiths together with thirteen of their employees to Gaṇeśa and Śiva Bhairava to bestow favour on the goldsmiths of Kauśāmbī town.² B. M. Vyas has also collected a large number of coins of pre-Mughul kings from Kauśāmbī.

5. OBJECTIVES AND SCOPE OF THE EXCAVATION

Archaeology had so far been virtually the monopoly of a Government department and was still a foreigner in the portals of the Universities. Fortunately for India, the then Director General of Archaeology in India, Dr. (now Sir) Mortimer Wheeler, realized that 'archaeology like other sciences can flourish only on a basis of healthy emulation and informed criticism. And this means that Indian Universities like other Universities throughout the world must enter the field and join the fray'.³ This liberal policy greatly encouraged the University of Allahabad to take up excavation-work.

The Archaeological Survey had excavated at Kauśāmbī in 1937-38 and collected a large number of antiquities. But the absence of a published report considerably lowered the value of all these finds. A closely-observed scientific excavation was, therefore, needed to reassess the chronological horizon of the site.

When the University, therefore, approached the Department of Archaeology for permission to excavate at Kauśāmbī, Dr. Wheeler warmly welcomed the proposal and even offered to provide technical assistance in initial operations.

The University Expedition realized from the very start that, if these ruins could be ultimately identified with the ancient Kauśāmbī referred to in the literature,

¹ N. N. Ghosh, *The Early History of Kauśāmbī* (Allahabad, 1935), p. 82.

² *Ibid.*, p. 93. Cunningham, *Arch. Surv. Ind. Rep. 1* (1871), pp. 310-11.

³ *Ancient India*, no. 3 (1947), p. 1.

we could at once have a site for excavation, with a continuous history of more than two thousand years. Founded not later than the period of the Mahābhārata war, this city had an uninterrupted record of occupation at least till the time of Harṣa, and, in all probability, down to the end of the Pratihāra rule, if not till the time of Akbar. Few ancient sites in the whole of the Gangetic valley could claim such a long and continuous record of habitation. Hence the excavation of this site was likely to extend the boundaries of our knowledge much beyond the Buddhist period.

The brilliant discoveries in the Indus valley at once revolutionized our knowledge of Indian history and archaeology. Civilization in India was no longer supposed to have begun with the entry of the Aryans into India. The cities of Mohenjo-daro and Harappā, magnificent even in their ruins, extended the story of civilization in this country far beyond the Vedic time. But this whole episode gave rise to a number of problems which Indian archaeology had yet to solve.

On the one end, in *circa* third millennium B. C. we had a civilization of a high order showing carefully-planned cities; on the other, Indian archaeology could hardly produce anything substantially of the pre-Mauryan period. What about the vast period that intervened between the two ends? The only material evidence that Indian archaeology could claim for this period was furnished by a few prehistoric copper implements, reported from a number of sites in the Gangetic valley. But these tools were related to no defined culture and their authorship was still more problematical. Of the excavated ancient sites, *viz.* Taxila, Ahicchatra, Pataliputra, Vaiśālī, Lauriya Nandangarh, etc., none had yielded anything that might throw light on this dark millennium of Indian history.¹

Amongst such sites, Kauśāmbī, as the gleanings from literature and archaeology clearly bring out, had the longest and most uninterrupted history. It was undoubtedly a pre-Buddhist station. In fact, the most glorious period in the history of this city came practically to an end after the death of king Udayana, a contemporary of the Buddha. Therefore, it was thought, the excavation of this city would undoubtedly throw light not only on the pre-Buddhist and post-Mahābhārata period, but might also contribute to our knowledge of the Brahmana and the Upaniṣad periods. Such a belief gained further support from the reported occurrence of prehistoric copper celts at this site.² The richness and variety of archaeological material from Kauśāmbī displayed in the Allahabad Municipal Museum afforded a clear indication of the potentialities of the site. Excavation at Kauśāmbī, therefore, was likely to help in building up the chronological sequence from the prehistoric to the Buddhist periods, so that thus Indian archaeology before Buddha might not remain the same enigma as it had been before the excavation was taken up.

As the city had been inhabited for a very long period, stratified accumulations affording evidence of culture-sequence were quite probable. As a nerve-centre of ancient Indian communication-system, it must have received goods, ideas, and ins-

¹ Excavations at Hastinapura and Rūpur and explorations in Bikaner, undertaken after the work at Kauśāmbī was started, have made valuable contributions to our knowledge of this period. In this connection, see also Sankalia, Subbarao and Des, *Excavations at Mahēśvara and Navdoli*; Sharma, G.R., *op.cit.*; for Rangpur, Lothal and other Western Indian Sites see *Indian Archaeology—A Review*.

² V. Smith, *Indian Antiquary* XXXIV (1905), p. 232

piration from other contemporary centres of civilization in India and beyond. The conspectus of pottery, beads, terracotta figurines etc., built up as a result of the study of various cultures here, would provide an index to the study of the adjoining regions in the Gangetic valley as well as in the Deccan plateau, particularly because of the fact that we had, before this excavation, hardly any archaeological material worth the name from any ancient site which might serve as a guide to the archaeologist of this and other regions.

At Kauśāmbī, there was no insurmountable difficulty of a high water-table, and as such the lowest levels would also be exposed with scientific precision.

Once we had clearly defined our objective as an effort to build a culture-sequence from the earliest to the Mauryan or immediately post-Mauryan periods, we had to choose a particular plot of land, the excavation of which was likely to yield the desired results. When we started surveying the site with this end in view, the object that attracted our prime attention was the pillar which stands in an old road-like depression running from one of the eastern gates and converging on the central mound.

The Archaeological Survey had acquired and excavated part of this particular area. The excavators were of the view that the site had been in occupation during the Maurya, Śunga and Kuṣāṇa periods.¹ The excavation was carried out according to the old technique followed in India, in which no rigorous regard was paid to stratification. But however defective the materials, or however unreliable the results, this evidence could not be altogether ignored. Even if their classification of antiquities into Mauryan, Śunga and Kuṣāṇa was arbitrary, the material collected by them clearly indicated that the last occupation of this particular site was in all probability pre-Gupta, because it contained nothing which could be definitely ascribed to the Gupta age. The work of the Survey had clearly demonstrated that the occupation of this particular plot was fairly long and continuous. We were, therefore, confident that the excavation of an adjacent area would enable us to achieve our immediate objective and we would be able to build up a sequence of pre-Mauryan, Mauryan and immediately post-Mauryan cultures.

The site offered another advantage. The Survey, in 1937-38, had excavated a very large portion of the plot and laid bare numerous walls and rooms. Our excavation, which was to be vertical (pls. IV-B and V-A), combined with the horizontal excavation of the Survey, would cover an area wide enough to give us a correct picture of the plan of this corner of the city. We should have the advantages of vertical as well as horizontal digging.

In view of the above, we planned to excavate the area lying near the Aśokan pillar and adjacent to the excavation of 1937-38 by the Archaeological Survey.

The day we started work we had very small funds at our disposal and practically no equipment. In the universities there was no tradition of archaeo-

¹ Unpublished information.

logical excavation, and hence we could not expect that the students would be ready to undergo the trouble and strain of field-work. Our difficulties were tremendous, and the consequences of failure equally serious. The University of Allahabad had taken a lead in making archaeological field-work a necessary part of its curriculum along with teaching and research. If this experiment failed, it would certainly be a great discouragement to other universities.

The first season's field-work lasted from January to the first week of April, 1949. The excavation was resumed on the 16th November 1949. The second expedition was, however, better equipped than the first. Meanwhile, we succeeded in securing a larger grant from the Government of Uttar Pradesh. The student-supply was better organized. And above all, the Expedition was now self-sufficient in technical personnel.

As regards programme of work, it was decided to continue excavation in the same area as that of the preceding year. We felt that a two fold purpose would be served by following such a course. There was a gap of about 100 ft. between the 1937-38 excavation of the Survey and our own excavation of 1949-50. The excavation would connect the two trenches and, in addition, would provide proper perspective to the previous excavation of the Survey.

CHAPTER II

STRATIGRAPHY OF THE SITE

1. GENERAL OBSERVATIONS

DURING the two seasons' excavations, attempt to reach the natural soil was made only in three trenches. In Cutting KS-I (fig. 8), the deposit down to 27 ft. 4 in. below surface yielded sherds. In another section of the same Cutting the depth of recorded habitation was approximately 27 ft. (fig. 8). In Cutting KS-III, however, natural soil was reached 30 ft. below the present surface. This thick deposit, therefore, is a record in depth of the total habitation on the site.

According to the available evidence, the site was finally abandoned between A.D. 300 and 350. One can, therefore, easily visualize how old was the first settlement on the site, over which slowly and gradually accumulated a 30-ft. thick deposit representing different periods.

A study of the material excavated from the different strata reveals significant changes in the material equipment and life of the people of different periods. The introduction of baked-brick structures, the use of ring-wells or other drainage-devices, the specific variety of terracotta figurines and coins are some of the characteristic pointers.

According to the evidence, pottery of the main cultural phases, as revealed in Cuttings KS-I and KS-III, are easily distinguished by the presence or absence of a distinctive class of pottery which is now commonly, though not aptly, known as the Northern Black Polished Ware : Period I pre-dated the advent of the Ware and Periods II and III respectively saw its appearance and disappearance.

On account of the vertical nature of the dig, it was not possible to determine with any measure of certainty the existence of sub-periods, if any, in Period I.

The evidence for the existence of sub-periods in Period II and particularly in Period III was both plentiful and conclusive. The nearly 22-ft. thick deposit covering the two Periods yielded a large number of floors, drains, ring-wells and walls at different levels and assignable to different sub-periods of habitation (below, p. 35FF). Besides, the discovery of a road proved extremely helpful in determining the stratification (pl. V B). As described elsewhere (below, p. 35), the road was first built in sub-period LIA and was repaired or relaid in subsequent sub-periods. The periods of its successive repairs, therefore, undoubtedly offered convincing clues for differentiating the sub-periods. Lanes, with their drainage-arrangements,

cross-walls etc., also helped in the determination of the different sub-periods. In the absence of such tangible vestiges of habitation, the disturbances in the layers in the form of pits, mostly refuse-pits, bore testimony to human activity.

A careful sifting of the evidence furnished by the structures, roads, refuse-pits, etc. clearly showed that Periods II and III contained as many as fourteen Sub-periods of habitation. Of these, the earliest five were distinguished by the complete absence of baked-brick structures. These five pre-structural Sub-periods ranged between layers 16 and 12. Mud-walls and road-pavements belonging to two Sub-periods were exposed. The evidence for the other three Sub-periods consisted largely of drainage ring-wells and, in their absence, refuse-pits.

The accompanying table (fig. 2) indicates the different Periods and sub-periods in terms of layers and the position of road-levels and thus gives a complete picture of the stratification of the site.

2. PERIOD I

In the 30 ft. of total habitation-deposit, the first 4 to 5 ft. of deposit, represented by layers 27 to 24 are devoid of the N. B. P. Ware and yield *inter alia* some sherds of grey ware with painting in black on the rim. These strata are separated from the earliest deposit with the N. B. P. Ware by a few barren layers, 17 to 23, with a total depth of nearly 9 ft. They have been termed barren because they yielded nothing that could prove human association by pottery, ash, pieces of charcoal, bones etc., and were not disturbed even by refuse-pits. Layers 27 to 24, therefore, represent the pre-N. B. P. Ware Period. Though only a few sherds of Painted Grey Ware were found therein, yet the composition of the layers containing them indicate that these were not stray finds.

At the top of layer 25 there were a number of regular pits filled with loose earth, ashy in colour, roughly circular in shape and about 6 in. in diameter at the top (pl. IXB). From their shape as well as contents, they appeared to have been post-holes. These phenomena indicate the existence of some hutments at that level, an inference supported by the composition of the layer as also the presence in it of decayed wood.

3. PERIOD II

The distinguishing feature of the deposit immediately overlying the barren layers was the occurrence of the N. B. P. Ware, the average total depth of this deposit, comprising layers 16 to 8, being 15 ft. Within these strata the Ware occurred

¹ Subsequent excavation (Kausāmbī-1957-59) revealed that the habitation at Kausāmbī antedates the Painted Grey Ware period called period II in the excavation report (G. R. Sharma, *The excavations at Kausāmbī-1957-59* Chap. II). Thus, periods I, II and III of the present report correspond to periods II and III and IV respectively of that of the 1957-59 excavations.

in abundance. In fact, in some of the layers the number of the sherds of N. B. P. Ware was almost as large as that of the plain and ostensibly more utilitarian contemporary grey or red ware. The abundance of the N.B.P. Ware sherds indicates its demand and easy availability. Without doubt, it was manufactured in large quantities at the site.

Gravel-layer 9, as pointed out elsewhere (p. 18), represents a period of shortfall in N. B. P. Ware from which it never fully recovered. It was certainly manufactured and used in layer 8, but by that time it had almost gone out of use. The layer, therefore, represented the final decline of this industry. The occurrence of solitary sherds in layer 7 in no way indicates the currency of this Ware but, on the other hand, affords clear evidence that, while this layer was being deposited, the culture represented by the N. B. P. Ware was not only exhausted but had practically become extinct.

4. PERIOD III

The strata comprising layers 7 to 1 represent Period III. The N. B. P. Ware is completely absent in this deposit. The stray occurrence of a few sherds of this Ware, however, has no material significance. The layers, therefore, represent one of the Post-N.B.P. Periods of the site.

CHAPTER III

CHRONOLOGY

EVIDENCE OF COINS

CUTTINGS KS-I and KS-III yielded more than six hundred coins, of which three hundred and sixtysix came in hoards and the remaining were distributed in layers 11 to 1. Being made of copper or bronze, most of them were found corroded. There are, however, quite a large number of well-preserved and easily-decipherable coins to provide a firm foundation for the dating of the different sub-periods, particularly those comprised in between layers 12 to 1.

The earliest coin from Sub-period IA was an uninscribed cast one, showing tree-in-railing, a arched hill and an hollow cross on the obverse, and possibly an elephant before the standard on the reverse (pl. LIII, 7). Uninscribed cast coins ranged between layers 11 to 3, their main concentration, however, being between layers 11 to 8. Such coins have been reported on from a very large number of sites,¹ and though no precise information about their date is available, it is certain, as Allan has remarked, that 'their frequent association with silver punch-marked coins on sites which yield only these classes of coins, suggests that they are of about the same date'.² The beginning of silver punch-marked coins has been ascribed even by the most conservative opinion to the fifth-fourth century B. C. The earliest currency of the uninscribed cast coins, therefore, can be plausibly dated to the fourth-third century B. C.

Sub-period IA, marked by the earliest baked-brick structure and equated with layer 12, yielded only one coin of this variety.

The uninscribed cast coin of the so-called 'lanky-bull' type occurred for the first time in layer 10, corresponding to Sub-period IB. Besides, a number of cast coins of other varieties also belong to Sub-period IB. The lanky-bull type, however, has been assigned to third century B. C.³ Allan has pointed out the close connection in style, type and date of these coins with those of Sudeva and Brhaspatimitra I, the palaeography of one of which is 'still roughly speaking Aśokan'.⁴ It seems quite probable that these two rulers adopted for their coinage an already-existing uninscribed cast type, viz., the lanky-bull type.

¹ Allan, *op. cit.*, pp. lxxiv-lxxv.

² *Ibid.*, p. lxxvii.

³ *Ibid.*, p. 148.

⁴ *Ibid.*, p. 150.

A large number of tiny uninscribed cast coins were obtained from Sub-period II, equated with layer 9, a significant deposit of gravel spread all over the excavated area. The average thickness of this deposit, composed of gritty and heavily charred material of brick-red colour, varied from 1 ft. to 1 ft. 10 in. Evidently, it represented some extensive and disastrous conflagration. As a result of this, the industry of the N.B.P. Ware received a shock from which it never fully recovered : most of the expert potters, who produced this Ware, must have either perished or left the place.

The coin-types of Sub-period II fall into the following classes :—

- (1) Uninscribed cast coins with elephant on one side and an arched hill on the other, the twin coin (pl. LIII, 12) being a significant example ;
- (2) Uninscribed cast coins of the lanky-bull or the mythical animal type (pl. LIII, 3) ; and
- (3) Tiny coins.

Layer 8 is extremely important because it marks the virtual disappearance of the N. B. P. Ware. From the internal evidence of the Ware there is reason to believe that the formation of this deposit represented a period when the industry had lost its vigour and whereafter it became extinct. This inference is borne out by the scarcity of the Ware in layer 7, where the few sherds were only stray finds carried over accidentally from the previous Period.

The coins associated with Sub-period III included, in addition to the three varieties enumerated above under Sub-period II, a coin of Brhaspatimitra II (pl. LV, 54). This coin, on palaeographic and other grounds, has been dated to the later half of the second century B. C.

Amongst the coin-types of Sub-period IV, besides the uninscribed cast coins, the most important were those of the rulers of the second Mitra dynasty, including Prajapatimitra. This Sub-period also yielded a number of coins with inscriptions in a very blurred condition but with the same fabric and type as those of Suramitra. Most of the coins of the rulers of this dynasty belong either to Sub-period IV or to Sub-period V, the important amongst them being those of Rājamitra and Rajanimitra (pl. LIV, 26-28), recovered from layers intervening between Sub-period IV and V.

Sub-period V, equated with layers 5 and 4, is significant because it was probably during this period that Kauśāmbī was invaded by the Kuṣāṇas. A coin of Jyeṣṭhamitra, one of the last Mitra rulers, came from layer 4. The evidence of the Kuṣāṇa occupation during that period is fairly clear : coins and seals of the kings of this dynasty were found in the strata lying between Sub-periods V and VI. Layer 3 was the earliest layer yielding their coins, showing thereby that they were on the scene by the time of the formation of that layer. Essentially, layer 4 represented the advent of the Kuṣāṇas.

Sub-period VI yielded a large number of coins of the Kuṣāṇas, king Neva and of the Magha rulers. There seems to be no doubt, therefore, that it represented the period when Kauśāmbī was wrested from the Kuṣāṇas by the local Magha rulers.

Sub-period VII, seemingly representing the undisputed sway of the Magha rulers, yielded coins of that dynasty alone.

To Sub-period VIII belonged the coins of Puṣyaśrī recovered from the pits scooped out after the latest levels of this Sub-period.

A terminal date for the site is provided by the coin of king Gaṇendra or Gaṇapatināga (pl. LV, 52), discovered in layer 1, only 4 in. below the present surface. It is certain, therefore, that at the time this coin was deposited the occupation of Sub-period VIII had not only been deserted but also destroyed to its very foundations. This inference was fully corroborated by the complete absence of any finds relating to the early Gupta period. The site was, therefore, not in occupation even during the beginning of the rule of the early Gupta monarchs.

2. EVIDENCE OF SEALS AND SEALINGS

The evidence of inscribed seals and sealings is equally useful in settling the dates of the Periods and Sub-periods. Germane to the present discussion are those of (1) Duṭuka, (2) Jarayadeva, (3) Vimana, (4) Kanīṣka, (5) Duśasata, (6) Bhapotika Bhāgavata, (7) Pukhu and (8) Uṭavriccha.

The seal of Duṭuka (pl. LII, 1), belonging to *circa* second century B. C., was found in a layer intervening between Sub-periods II and III and, therefore, properly belonged to Sub-period II.

The sealing of Jarayadeva (pl. LII, 2) was found just on the surface of a floor of Sub-period III. On palaeographic grounds, the sealing does not seem to be later than that of Duṭuka. It is comprehensible, therefore, that the seal was possibly retained down to a period later than the period of its striking.

The seal of Vimana (pl. LII, 3), on grounds of palaeography, has to be dated to 50 B. C.—A. D. 50. It was discovered in a layer that intervened between Sub-periods IV and V. It is, therefore, earlier than Sub-period V and may be ascribed to Sub-period IV.

The seal of Kanīṣka (pl. LII, 4) was discovered in a pit below the structures of Sub-period VI, cut from the top of layer 4 and, therefore, accumulating during the duration of Sub-period V. Its stratigraphic position makes it clear that the structures of Sub-period V were probably built before Kanīṣka and that layer 4 represented the period of that ruler. The sealing had evidently got buried before the structures of Sub-period VI came into existence.

On palaeographic grounds, the next three seals, one of Duśasata (pl. LII, 5) and two of the Śaiva temple of Bhapotika (pl. LII, 6) have been dated to early second century A. D. They were found in a layer which accumulated in the interval between Sub-periods VI and VII; they were, therefore, earlier than Sub-period VII and may be ascribed to Sub-period VI.

The last two seals, that of Pukhu (pl. LII, 7) and Uṭavriccha (pl. LII, 8), have been dated, on palaeographic grounds, to the early fourth century A. D. Both

of them were recovered from pits sealed by a layer which contained a coin of Gaṇendra. They, therefore, belonged to Sub-period VIII and indicated the occupation of the site till the first quarter of the fourth century A. D.

3. CONCLUSIONS

From this discussion of the numismatic and the epigraphic evidence, it is clear that the two lines of enquiry have many points of contact and fully corroborate and supplement each other. They together establish the fact that the total occupation represented by structures from Sub-periods IA to VIII covered a period roughly from the middle of fourth century B. C. to the first quarter of the fourth century A. D. This computation gives each Sub-period an average duration of about seventy-five years. A period of nearly seven hundred years for an accumulation of 10 ft. may not appear to be an entirely speculative time-scale.

It will be observed that the proposed chronology for the sub-periods is in perfect accord with all the known facts of history. The stratigraphical position of the uninscribed cast coins like the lanky-bull type and those with the elephant and arched hill symbols obtained from Sub-periods IB and II, is in consonance with their generally-accepted date. Similarly, the proposed date for Sub-period III—125 to 50 B. C.—goes well with the palaeography of the seal of Jarayadeva as also with the coins of Brhaspatimitra II.

The above discussion has also revealed that the rulers of the later Mitra dynasty are to be placed between *circa* 100 B. C. and mid-first century A. D.

To Sub-period V is assigned a date from A. D. 25 to 100, the circumstances of the discovery of the seal of Kanīṣka lending support to this view. The structures of Sub-period V were built in the pre-Kuṣāṇa era in the times of the last Mitra rulers.

The date for Sub-period VI is proposed as A. D. 100-175. This period, therefore, witnessed the downfall of the Kuṣāṇas and the beginning of Magha supremacy. This date accords well with the discovery of the coins of the Kuṣāṇas, of Neva and of Magha rulers in this Sub-period.

The proposed date for Sub-period VII is A. D. 175-250, which receives ample confirmation from the complete absence of inscribed coins of the earlier dynasties like the Kuṣāṇas and the Mitras, the occurrence of exclusively Magha coins and also the non-occurrence of any post-Magha coin. Sub-period VII was, therefore, the epoch of Magha supremacy.

Sub-period VIII has been dated to A. D. 250-325. As explained earlier, the reason for proposing the terminal date as 325 is the absence of any finds relating to the Gupta period and the presence of the coin of Gaṇendra in a layer which sealed not only the structures of Sub-period VIII but also closed the story of their destruction.

The first five Pre-structural Sub-periods of Period II, represented by layers 16 to 13, did not yield any datable material. Any date given to them must, therefore,

be only tentative. The life of mud-dwellings, though conditioned essentially by general environmental conditions, is normally much shorter than that of burnt bricks. Considering the general context of the site, an average duration of fifty years for each Sub-period may seem reasonable.

The chronology of Period I is still more uncertain. Its strata were separated from those of Period II by a 9-ft. thick barren deposit, which makes the problem still more complicated, especially when the cause of the deposit is unknown. The accumulation of a 4-ft. thick deposit, consisting of layers 27 to 24, at least two of which were occupational, must have taken a considerable time. Keeping in view the occurrence of the Painted Grey Ware, the beginning of the period is tentatively ascribed to the first centuries of the first millennium B.C.

To sum up, the Periods may be dated as follows:—

PERIOD, I representing the Painted Grey Ware era : first quarter of the first millennium B.C.

PERIOD II, representing the N. B. P. Ware period : *circa* 600 to second century B. C.

PERIOD III, representing the post-N. B. P. Ware : *circa* second century B. C. to A. D. 325.

KAUSĀMBĪ, 1949-50

CHRONOLOGICAL TABLE

OF
PERIODS AND SUB-PERIODS OF HABITATIONS IN KS-I AND KS-III

| DATES | PERIODS | STRUCTURAL SUB-PERIODS | ROAD- PHASES | LAYERS | COINS | POTTERY |
|-------|----------|---------------------------|-----------------|--------------------|--|------------------------------|
| 400 | | | | (1) | GANENDRA (GANAPATINĀGA) | |
| | | S.-P. VIII | VIII | (1A) | PUŚVASRĪ | |
| | | | | | MAGHAS | |
| 200 | | S.-P. VII | VII | (2) | | |
| | | S.-P. VI | VI | (3) | MAGHAS NEVA KUSHAN | LATER WARES |
| | | S.-P. V | V | (4) (5) | | |
| A.D. | | S.-P. IV | IV | (6) (7) | RAJANIMITRA PRAJĀPATIMITRA SŪRAMITRA BRIHASPATIMITRA II | |
| B.C. | | S.-P. III | III | (8) | | |
| | | S.-P. II | REPAIRS | (9) | | |
| 200 | | S.-P. IB | II | (10) (11) | LANKY BULL | NORTHERN BLACK POLISHED WARE |
| | | S.-P. IA | I | (12) | UNINSCRIBED CAST COINS | |
| 400 | | P.-S. V | | (13) | | |
| | | P.-S. IV | | (14) | | |
| | | P.-S. III | | (15) | | |
| | | P.-S. II | | (16) | | |
| 600 | | P.-S. I | | | | |
| | | | | (17) TO (23) | BARREN DEPOSIT | |
| 800 | | | | | | |
| | PERIOD I | | | (24) TO (27) | | GREY WARE |
| 1000 | | | | | | |

Fig. 2.

CHAPTER IV

LAY-OUT OF THE EXCAVATED AREA

1. THE ROAD

THE road (fig. 7 and pl. V B) excavated in Cuttings KS-I and KS-III formed the hub of planning in this part of the city (pls. VB-VIIB). Every house had access to it either directly or through some lane or bye-lane. The area excavated by the Archaeological Survey in 1937-38 was also linked with it by a major lane, no. 8, which, in turn, was joined by two bye-lanes. This road ultimately joined one of the principal thoroughfares of the city connecting the habitation in the centre of the city to the eastern gateway. The deep trough-like depression running from below the main central mound through the pillar to the eastern gateway possibly indicates the alignment of this ancient thoroughfare. The pillar possibly stood at the junction of this principal thoroughfare and the excavated road in the Cuttings KS-I and KS-III. An emblem of piety and religious exhortation, it would naturally stand at the junction of main thoroughfares, as a constant reminder from the emperor to the people of Kauśāmbī to follow the noble path of the Tathāgata.

According to the available evidence, the road was originally built in Sub-period IA, when also the first brick structures were built. But it was during the subsequent Sub-period, IB, that the road was laid properly and in a manner in which, with slight modifications in different Sub-periods, it survived practically till the end. Possibly it was also during Sub-period IB that the city was planned on a pattern that persisted till the end of the occupation of the site. Well-planned houses built of burnt bricks sprang up along the roads and the lanes.

According to the chronology proposed above (p. 20), Sub-period IB is dated to *circa* 275-200 B. C. It is not, therefore, improbable that this sector of the city was planned and built in Aśoka's time. Tradition has it that Aśoka built a *stūpa* at Kauśāmbī and also erected possibly two pillars in the city, one of which has probably now found its place in the Allahabad Fort. If this surmise is correct, Aśoka's reign gave a fillip to the growth of this ancient city. If further excavation brings forth evidence of a direct nature, Aśoka's dominance over the city would acquire an altogether new significance.

A. PHASE I (SUB-PERIOD IA)

In Sub-period IA, the road, nearly 8 ft. wide, was laid out on the top of layer 12.

The road-metal consisted of tiny brickbats, mixed with *kankar*, charcoal and plenty of compact clay. Formation of ruts indicates that traffic was fairly continuous.

For sometime, the road seems to have been neglected, so much so that a thin layer of earth, no. 11, was allowed to accumulate over it.

B. PHASE II (SUB-PERIODS IB AND II)

Phase II of the road represents its real size and nature. The road was widened to measure 16 ft., with a thickness of nearly 18 in. of metal. It was built of brickbats mixed with *kankar* and powdered brick (*surkhi*), the top surface being hardened by a thick layer of brick particles and lime, which insured it against wear and tear. In spite of the fact that the traffic was heavy, as indicated by large number of ruts, this phase of the road lasted for more than a century.

As pointed out elsewhere, an extensive conflagration marked the end of Sub-period IB. But it is remarkable that the road remained practically unaffected by this conflagration. The accumulation of the gravel (layer 9) against the kerb, however, made the road-level with the contemporary living surface.

C. PHASE III (SUB-PERIOD III)

After the accumulation of layer 8, the road was again relaid. But neither in material nor in dimensions was it comparable with its earlier phase. Its width was reduced to about 11 ft., with only 10 in. thick road-metal, the surface being 4 in. to 5 in. higher than the contemporary surface. It was built of tiny brickbats, *kankar* and brick particles mixed with clay.

D. PHASE IV (SUB-PERIOD IV)

In this phase the road was laid in layer 7, and measured nearly 12 ft. wide and 1 ft. thick. It was built of small brickbats, *kankar* and powdered bricks.

E. PHASE V (SUB-PERIOD V)

This phase witnessed a great building activity, as indicated by the evidence of a large number of structures ascribable to the Sub-period. But, strangely enough, not much attention was paid to the road, the width of which was less than 12 ft., with 8 in. as the maximum thickness. It is also significant that the road suffered from comparative neglect even while layer 4 accumulated. Although specific reasons for this neglect are not known, it is not unlikely that the political eclipse of Kauśāmbī after the Kuṣāṇa invasion might have been largely responsible for it.

F. PHASE VI (SUB-PERIOD VI)

In this Sub-period the road was rebuilt systematically. It was now approxi-

mately 15 ft. wide and the maximum depth of its bed was about 1 ft. The road-level was approximately 3 in. to 6 in. higher than the existing surface. On excavation, its surface was found to be without undue undulations with the ruts quite regular and fresh.

G. PHASE VII (SUB-PERIOD VII)

During this phase, the road was built again : first a bed of brick-pavement was laid, over which metal, consisting of brick concrete, *kankar* and *surkhi*, was spread out, making a solid compact mass by the mixing of earth and heavy pounding.

H. PHASE VIII (SUB-PERIOD VIII)

The road of this Sub-period was found in an extremely dilapidated condition in a portion of the excavated area. The top concrete had completely vanished leaving the original bed of brick pavement. It was encountered only 2 in. below surface. The original road-level, therefore, must have been higher than the present surface of the ground.

From the foregoing it is seen that the road was originally built in Sub-period IA and continued down to Sub-period VIII. As such, it was coeval with all the structural Sub-periods at the site.

2. THE LANES

A number of lanes join the road both on the eastern and on the western sides. The principal lanes, however, were only two. The one on the western side (pl. VI A), marked Lane 1 (fig. 6), connected the block of houses 1, 2, 3 and 4 to the road. The lane on the eastern side (pl. VIII B), marked Lane 3, was a longer one and connected to the road not only Houses 5 and 6 of the present excavation but also the houses exposed by 1937-38 excavation, which, by the discovery of this lane, were thus put in a proper setting.

A. LANE 1 (pl. VI and pl. VIII)

In all probability this lane was formed in Sub-period IB. The earliest evidence of its probable existence was furnished by a ring-well (R. W. 2) belonging to Sub-period IA, although no associated structures were recorded. Extensive disturbances that preceded the accumulation of gravel in this area suggested the probability of the existence of walls on both the sides in a much earlier period. In Sub-period III and onwards, however, the evidence of structure was continuous down to Sub-period VII.

Two walls, AS and AT, that flanked the lane on the northern and southern sides and a ring-well (R. W. 7) (pl. VIB) are attributable to Sub-period III. To Sub-

period IV belonged soakage-jars built in the middle of the lane (pl. VI A and pl. VII A). It is interesting to know that the upper two jars had perforated bottoms while the lowest was without any aperture. This device, therefore, would have been ill-suited for drainage or soakage purposes. It is not unlikely that the series of jars was used for storing water to extinguish fire in times of emergency. Kautilya lays down rigorous injunctions for storage of water on the roads and lanes.

In Sub-period V, Walls AN1 and NN2 furnished very clear evidence that this lane was used by the occupants of Houses 2 and 3. Wall AN1 was provided with a number of post-holes attesting to the existence of side-doors opening out in the lane.

In Sub-period VI, a number of cross-walls were erected in the lane. The cross-walls were each provided with a single-leaf door and an open drain (pl. VIII A). Considerations of security from trespassers and thieves were responsible for the erection of these cross-walls. The lanes could be closed at night or in times of emergency, thus effectively sealing off the entire locality. During this Sub-period a noteworthy change occurred in the drainage-system: the ring-wells had gone out of vogue and were substituted in the lane, as elsewhere in the city, by open or covered brick-built drains. The institution of the open drains in the lane presented no difficulties in drainage. But this arrangement was less hygienic than the earlier device of ring-wells, which would not allow water, sewage, filth, etc., of the lane to reach the main road. The very elaborate drainage system of each lane insured the discharge of water and filth deep inside the ground where it got absorbed into the earth. The open drains, on the other hand, discharged themselves on the road and in many cases on the main road itself. The latticed drain in Wall AK1 may be cited as an example (pl. XXII B). If the drains of all the lanes, bye-lanes and the houses discharged themselves on the main road, the condition of the road and the plight of the passers-by can very well be imagined.

In Sub-period VII considerable encroachment was made on the lane (pl. VIII A). The greedy house-owner seems no longer to have cared for the municipal authority. With impunity he extended into the lane the outer platform of his house. If the oven on this platform marked its original situation, it set a seal on this citizen's impunity.

Of Sub-period VIII only a badly-mutilated wall was exposed. The wall that flanked the lane on the southern side was also available up to one or two courses.

Thus the lane built in Sub-period IA remained in continuous use at least down to Sub-period VII, the penultimate phase of occupation at the site. It indicates that the alignment of the houses probably remained practically the same throughout these Sub-periods.

B. LANE 3 (pl. VIII B)

Lane 3 connected with the main road the blocks of houses lying on the east. It was fairly long, continuing in Block 3 and the area excavated in 1937-38. The entire available length of the lane was over 200 ft.

The lane was orientated east-west and was formed by Walls BJ1 on the north and FK and DA on the south (pl. VIII B). It shared all the essential features of Lane 1, viz., (i) drainage-arrangement, (ii) cross-walls and (iii) accessibility to the occupants on both sides. In Sub-period III, a number of ring-wells were built to drain off the lane. In Sub-period VI, like Lane 1, it was provided with a number of cross-walls. The door-posts in Wall DA, however, showed that the blocks of rooms to the south had access to this lane through a door. It was not possible to ascertain if the blocks of houses on the north also had a similar access.

Partly on account of the vertical nature of the dig and partly on account of late disturbances, the complete history of the lane could not be fully ascertained. The existence of Tank 1 might imply that this lane came into existence in Sub-period II. The story, however, becomes clearer from Sub-period III. Wall BL1, as also Ring-wells 5 and 6, fully attests to the existence of this lane. It is clear that from Sub-period III to Sub-period VI the alignment of the houses in this area and the position of the lane remained the same. In Sub-period VII, however, the lane was shifted slightly to the south. This change was possibly necessitated by the modification in house-plans on both the sides of the lane during this period.

3. THE BYE-LANES

Joined to Lanes 1 and 3 were a number of bye-lanes. Of these, two were excavated in Cutting KS-III (marked 2 and 4 on fig. 6).

A. BYE-LANE 2

This bye-lane branched off from Lane 1. According to the available evidence, it was built in Sub-period III during which Wall AN5 on its western side screened the courtyard of House 3. The cross-wall of this period was available, however, only upto a height of one course.

In Sub-period V the bye-lane was flanked on both the sides by walls, Wall AP1 on the east and a rebuild of Wall AN5 on the west. The evidence of continued existence and use of the bye-lane is furnished by the successive rebuilds of Walls AN5 and AP1. In this Sub-period the bye-lane was provided with a pavement of concrete consisting of *kankar* and *surkhi*.

With the rebuilding of the houses, the street-level of the bye-lane also rose. Consequently, its mouth, where it branched off from Lane 1, had also to be raised by the erection of a small wall. These accretions of different Sub-periods together assumed the appearance of a blocking wall (pl. VII B) clearly demarcated from Walls AN1 and AP2. It is not improbable either that in some Sub-period it might have actually served that purpose.

B. BYE-LANE 4

This bye-lane branched off from Lane 3 and was flanked on the west by Wall

BL5 and on the east by Wall BV, and was only $1\frac{1}{2}$ ft. in width. Possibly it served as a service-lane for the blocks of houses lying on either side. The existence of a brick-built drain supports this hypothesis.

On account of structural disturbances, it was not possible to ascertain the full history of the bye-lane. Presumably, it had the same history as Walls BL5 and BV.

4. THE HOUSES

A. ARCHITECTURE

The exposed houses, like the contemporary ones at other excavated sites in the Gangetic plains, were built of bricks, the only evidence of wood being the post-holes and sockets for door-jambs. The use of wood in the roofing material is likely but not established by any remains. The structure of the houses was severely plain, thus presenting a violent contrast with the religious edifices of a comparable age, such as those at Bhārhut and Sāñchi and the cave-temples of the Deccan. Nevertheless, even in the lack of embellishment, the houses, as exposed here and elsewhere, are important in that they afford a peep into the life of the common man.

Bricks were laid in mud. The use of lime as a binding material was very rare, being confined to tanks, though the walls provided evidence of having been painted with lime. In the earlier structures complete bricks, usually of good quality, were used: crude bricks and brickbats were reserved for floors, but in the later ones, particularly in Sub-periods VI, VII and VIII, bricks and brickbats were used without discrimination. Earlier structures were commonly despoiled by the builders of a subsequent one. Old foundations were fully utilized for new structures (pl. XII).

In the main, the houses were aligned with the road and the lanes, which ran north-south and east-west. The earlier houses were orientated fairly correctly with the cardinal points, but in the later ones there is no rigid orientation.

The walls had a vertical facing both externally and internally without any batter. The foundations of even massive walls were not carried to any great depth, only three or four courses being laid below the then existing surface. The facing of the walls was not very uniform, particularly in the later structures, where no attempt was made to obtain uniformity in plan. The few structures and rooms of Sub-period VI amply bear out this observation.

Brick columns were extremely rare, only two instances having been met, with, one of them forming pilaster of a verandah. Floors were ordinarily built of bricks or brickbats laid flat.

As no superstructure was available, it is difficult to determine with certainty how the houses were roofed. Some evidence was, however, provided by very large number of tiles recovered from different layers. The tiles were provided invariably with a hole in the top right corner and a number of grooved channels running lengthwise. Through these holes they must have been attached to one another and collec-

tively to the wooden or bamboo frame of the inclined roof. In Cutting KS-I, such a roof had collapsed inside the room itself (pl. XVI A).

Since the excavation was limited in scope, it could not be ascertained with any measure of conviction whether the houses had double storeys. Only two staircases came to light in the excavated trenches. The steps in Cutting KS-III were not steps in the real sense of the word but were formed by a partial overlapping of walls of two different Sub-periods; those in Cutting KS-I (pl. XIVA) might have led to a platform facing the road, but their situation inside the verandah makes such a conjecture doubtful, but it is not unlikely that this stairway led to the second storey of the verandah.

The width of the doors was determined by their situation. The main doors of the houses were fairly wide, ranging between 3 ft. 9 in. and 4 ft. 9 in. The other doors measured about 2 ft. 6 in. The doors of the rooms had probably only one leaf. In an exceptional case, for one door-jamb two holes, near each other, were found. Possibly one of the door-posts only functioned as a support for the real door-jamb. In all probability, the doors were spanned by flat wooden lintels.

The bricks were flat and oblong, those in the earlier periods being larger than in later periods. The bricks of Sub-periods I and II measured $19 \times 13 \times 3\frac{3}{4}$ in., whereas those of Sub-periods V and VI measured only $14 \times 11 \times 2\frac{1}{2}$ in. The size of bricks therefore helps to determine the Sub-period to which the structure belongs, but the problem is very often complicated by the frequent reuse of earlier bricks in later structures. A careful analysis is, therefore, needed to form a workable chart of brick-sizes of different Sub-periods.

The plan of the houses was, to an extent, determined by the orientation of the road and the lanes described above. In all, six houses were exposed, but due partly to the vertical nature of the excavation and partly to the structural disturbances of the site, it was difficult to make out the complete and coherent plan of each house.

Although the houses had individual features, the basic plan of each seems to have been much the same. They consisted of two apartments, inner and outer, probably used largely by women and men respectively. There was a larger number of rooms in the inner apartment than in the outer. In one case there was evidence that a set of rooms had been built around the inner courtyard. The walls of the outer rooms of the outer courtyard were sometimes substituted by wooden posts, e.g. in House 3. (pl. XVI B). Sometimes, as in House 1, verandahs were added in front of the outer rooms of the outer apartment.

B. HOUSE 1

The earliest remains of this house belonged to Sub-period IB, but it was only from Sub-period V, that some sort of a coherent plan took shape. The successive floors (pl. X) formed part of the inner courtyard of this house. The courtyard had been enclosed by sets of rooms, presumably on all the sides, though those on the

eastern, northern and partly on the western sides alone were laid bare. To the east of the rooms of the eastern wing was a small inner courtyard encompassed by a set of two rooms of unequal lengths. The inner and the outer courtyards were connected by a narrow passage formed by Walls WW4 and YY. In Sub-period VI, a verandah facing east was added. Thus, to reach the inner courtyard one had to pass through the outer verandah, the small courtyard and the main eastern wing. In Sub-period VII, the verandah was possibly replaced by an open platform on the road.

In all likelihood, the inner courtyard and the set of rooms on its four sides formed the female apartment and the outer courtyard, the two rooms and the verandah (pl. XI) were occupied by the menfolk. If the sealing discovered in this house represents the name of the owner, Vimana was the occupant of the house in Sub-period IV.

C. HOUSE 2

This house was separated from House 1 by a narrow bye-lane. On account of very extensive despoliation of the site, this house was almost completely robbed of its bricks. The tank (marked 2 on fig. 3 and pl. XVIII), belonged to this house. Rooms formed by Walls NN1-NN5, JJ1-JJ5 etc. constituted in different periods one of the wings of the house. It is not unlikely that, like House 1, this one also once extended right upto the Road.

D. HOUSE 3

Bounded on the south by Lane 1 and on the east by Bye-lane 2, this house was built on a different plan. The main courtyard was encompassed by sets of rooms only on the southern and western and probably on the northern sides, there being none on the eastern. Only a single wall screened the courtyard from Bye-lane 2. The division of the house into men's and women's apartments also followed a different plan: its western side was possibly reserved for men, since an open room, with its roof supported on wooden posts (pl. XIV B), could hardly suit the convenience of women. The seal of Jarayadeva in Brahmi script of the early second century B. C. was discovered in the courtyard of Sub-period II. Though the walls of the different Sub-periods were no longer available, the successive floors in the north-eastern corner proved that the house had continued in occupation from Sub-period II to Sub-period VI. In Sub-period VII this house was possibly abandoned, and above the foundations of Walls AM5, AN4, AN1, Tank 3 was built (fig. 5).

E. HOUSE 4

This house was bounded on the west by Bye-lane 2, on the south by Lane 1 and on the east by the main road itself. The floors of Sub-periods VI and VII (pl. XIX A) forbade deeper digging, with the result that the complete plan of this house could not be recovered. An interesting feature was the bath-room, belonging to Sub-period VI.

F. HOUSE 5

Of all the excavated houses, House 5 constituted a class by itself. The plans of the different Sub-periods could be ascertained with some measure of certainty. The house originated in Sub-period II, although its plan in this Sub-period could not be fully determined. It was rebuilt in Sub-period III. In Sub-period IV sets of rooms on southern, eastern and northern sides were built to enclose a courtyard, there being none on the western side. Wall BL1 formed the outer wall on the western side. Walls BJ2 and BP1 contained a passage from the courtyard to a lane, the precise outlines of which could not be determined. The courtyard was possibly partitioned into two equal halves.

In Sub-period V the plan was considerably modified by the extension of Wall BJI and by the addition of Wall BL5, which, with Walls BL4, BS1 and BS2, formed two more rooms attached to the two rooms in the eastern wing.

In Sub-period VII, the plan was again modified. Rooms 4 and 5, of Sub-periods IV and V, were now abandoned. The courtyard was considerably narrowed by the addition of two verandahs (pl. XVII B).

While the above description sums up the story of the inner apartment of this house enclosed by walls BL1, BJ1, BL5 and BR1, that of the outer apartment is not clear. It is definite that the outer apartment did exist notably in Sub-periods V and VI, though it might have come into existence much earlier. The existence of Tank 1, which seems to have constituted an important feature of the outer courtyard, may imply that the latter was built much earlier, possibly in Sub-period II, although the details of its plan are lacking.

G. HOUSE 6

This house was separated from House 5 by a very narrow lane formed in Sub-period VI by Walls BL5 and BV. A larger portion of the house had been excavated in 1937-38 but refilled subsequently. Moreover, the entire area was so much crowded with structures of later Sub-periods that the plan, particularly of earlier Sub-periods, could not be determined. The house, in all probability, was first built in Sub-period III, if not earlier.

6. THE DRAINAGE-SYSTEM

A remarkable feature of the excavation was the light it threw on the drainage-system of Kauśāmbī. The various devices in vogue included ring-wells, soakage-jars, terracotta pipe drains, open brick drains and brick tanks.

A. RING-WELLS XX A

The ring-wells, constituted of terracotta rings of an average height of 6 in., placed one upon the other, were very commonly used to drain off water from court-

yards, houses and lanes. Two, or sometimes three, rings completed a circle which had an average diameter of 2 ft. 6 in. When excavated completely, a ring-well looked like a ribbed terracotta column sunk in the floor of a house or the pavement of a lane. As many as thirteen ring-wells were exposed.

None of the fully-excavated ring-wells, reached the estimated contemporary water-level and they could not, therefore, have served as water-wells. They were found packed, on the other hand, with material typical of drains. The concentration of as many as three to four ring-wells in the same house seemed to denote that when the soakage capacity of one had been exhausted, another was built in the same area. They were, therefore, used primarily for sewage-purposes. Those in the lanes served as vertical drains for the intake of rain-water which was drained below the surface where it was automatically soaked.

According to the available evidence, the ring-wells had a long history at this site extending from Pre-structural Phase IV to Sub-period IV or from *circa* 450 to about 50 B. C. This, therefore, was the most popular drainage device of the people using the N. B. P. Ware.

This system is still in vogue in the western districts of U. P., where it serves both as a well and a soakage-pit.

Ring-well 1 was the earliest ring-well, built when layer 13 was the living surface and as such is ascribable to Pre-structural Phase IV.

Ring-well 2 was excavated in Lane 1, at a time when the top of layer 11 constituted the living surface, and is thus related to Sub-period IA.

Ring-wells 3 and 4 were contemporary with each other and were built in Sub-period II when the gravel-layer 9 had accumulated.

The largest concentration of ring-wells, however, was in Sub-period III, to which belonged Ring-wells 9 and 10 in Lane 3 and Ring-well 7 in Lane 1. Of these, Ring-well 10 was the only one which was used in two successive Sub-periods.

Ring-well 12 might have also belonged to Sub-period III, but the stratification was unfortunately not clear.

Ring-well 13 was built against the eastern face of Wall BL4. The evidence in this case is conclusive that the ring-well ceased to function in Sub-period V. It was found filled to the brim with filth and refuse and a large number of bricks.

B. SOAKAGE-JARS

This system, though serving an identical purpose as the ring-wells, was not so common. In a cylindrical pit, a number of jars were placed one above the other. The bottoms of all the jars were perforated. Water and sewage were thus carried down below and soaked by the heat generated within.

It is also possible that they were used for another purpose as well. In certain cases where bottom of the lowest jar was unperforated, the jars could not have been used for soakage. In such cases, particularly where they were situated in the lanes,

the jars might have been used for storing water as a precaution against outbreak of fire. Kauṭilya¹ visualizes elaborate arrangements of this type.

Three examples of this type were excavated, two in Cutting KS-I and the remaining one in Cutting KS-III.

Soakage-jar 1 was located at the extreme western end of House 1 and belonged to Sub-period III.

Soakage-jar 2 was built while the top of layer 7 constituted the living surface and is equated to Sub-period IV. It is the most majestic example of this system. As many as seven jars were placed one above the other.

Soakage-jar 3 located in Lane 1 (pl. VII A) was contemporary with no. 2. It is to be noted that the bottom jar was unperforated.

C. TERRACOTTA DRAINS

The use of terracotta pipes for drains is fairly old. It was known to the Harappans and was even noticed at Knossos and Nurzi.² But terracotta pipes were used at Kauśāmbī in an entirely different manner, for whereas in the Harappan cities, in Crete and in Mesopotamia, the pipes were used vertically, in Kauśāmbī they were used horizontally. These pipes were made on wheel and were carefully fitted into one another to obtain the required length.

Drain 1, the earliest example of its kind, was exposed in Cutting KS-III, laid into the gravel-layer 9, Sub-period II. Only a few fragments of one pipe were available.

Drain 2, situated in Cutting KS-III, comprised a number of pipes laid into layer 8, Sub-period III (pl. XX B).

Drain 3, belonged to Sub-period IV and comprised a number of pipes (pl. XIX B).

Thus, according to the available evidence, this drainage device was current at Kauśāmbī from Sub-period II to Sub-period IV. This system remained in vogue in the eastern districts of U. P. till recent years.

D. BRICK DRAINS (Pl. XXI-XXII)

About the first century A. D. brick-built drains came into vogue at Kauśāmbī. Like a modern drain, two walls enclosed a channel, which was very often uncovered. In all, twelve examples of such drains were exposed during the present excavation. These have been described in their proper places (below, Chapter V). Excepting a doubtful example from Sub-period II, they ranged in date from Sub-period IV to Sub-period VIII. Only one amongst these was covered, the rest being open.

¹ *Arthaśāstra*, Prakaraṇa 56, p. 145 (Ed. Śama Śāstrī).

² Marshall, *Mohenjo-daro and the Indus Civilization* (London, 1931), vol. I, p. 280

E. TANKS

The brick tanks constituted a class by themselves. These tanks, described in details elsewhere (below Chapter V), were neither soakage-pits nor drains but were utilized as septic tanks, which could be periodically cleared. An easy descent was made possible by the set of holes in one corner. In no other way it is possible to explain the holes. In one case, in Tank 3, they served no obvious purpose. Three such tanks were excavated.

Tank 1, in Cutting KS-III, was the earliest and was built in Sub-period II. Tank 2 (pl. XVIII) was possibly built originally in Sub-period IV. The latest was 3, which belonged to Sub-period VII.

CHAPTER V

THE STRUCTURES

1. PRE-BRICK STRUCTURES (Fig. 2)

THE Sub-periods of habitations could be easily discerned where walls, floors, brick-built drains and similar materials were readily available. But these were confined to the upper 9 ft. of the deposit below which there was no evidence of brick structures.

For ascertaining the habitational Sub-periods below this 9 ft. deposit one had to rely on indications of a different character, *viz.*, road-levels, mud walls, ring-wells, refuse-pits, etc. Whereas in Period I, no Sub-periods were determined, in Period II, five such Sub-periods were recorded, although the evidence was extremely scanty. In the absence of a better and more expressive term these have been described as Pre-structural Phases I to V.

A. PRE-STRUCTURAL I

It has been pointed out earlier (p.) that layers 23 to 17 were completely barren. A few pits dug out from the top of layer 17, are the indications of the earliest human activities in Period II. These pits yielded the characteristic N. B. P. Ware. Besides pottery, the pits contained beads and charcoal fragments indicative of human occupation near about.

B. PRE-STRUCTURAL II

At the top of layer 16, evidence of human habitation was furnished by a large number of pits, containing the same material as the pits of the earlier phase.

C. PRE-STRUCTURAL III

The most important structure of this Sub-period was a *kachcha* wall (K-wall 1) (Fig. 6). It was a mud wall, made of blocks of clay piled one above the other and pressed together. The wall was available to a maximum height of $1\frac{1}{2}$ ft. Its foundations were laid in layer 15.

D. PRE-STRUCTURAL IV

The material remains of this Sub-period are more numerous. *Kachcha* walls

2, 3 and 4 along with the associated *kachcha* floor and Ring-well 1 belong to this Sub-period (Fig. 3).

Kachcha wall 2 was a mud wall made of blocks of clay piled in a heap and pressed together, much in the same fashion as persists even today.

The foundation of *Kachcha* wall 3 was laid in layer 14. It was available to a total height of 1 ft. 4 in. and was traced to a length of 14ft. The return-wall, K-wall 4 was 2 ft. 10 in. wide and was available to a length of 6 ft. 2 in. The two together formed a room, the complete plan of which could not be ascertained. Associated with these walls was a floor in which were built two furnaces or pits containing what looked like some decomposed material. From this floor were recovered a large number of antimony-rods.

Ring-well 1, situated 14 ft. 5 in. below the present surface, had a diameter of 2 ft. 5 in. Only very few rings, however, could be exposed. Its discovery throws interesting light on the drainage-system of the Period.

The noteworthy feature of the Sub-period, however, was a portion of a street which was used at least in two Sub-periods, the earlier one being contemporary with K-walls 2 and 3. The street was paved with gritty concrete.

E. PRE-STRUCTURAL V

This Sub-period was represented by a floor on the top of layer 13 immediately below the earliest phase of the main road (pl. VII fig. 3). A very large number of pits were dug during this Sub-period. On account of the vertical nature of the dig, it was not possible to determine the cause of this disturbance. Another floor, composed of burnt earth, nearly 4 in. in thickness, and sealed by layer 12, also belonged to this Sub-period.

2. BRICK STRUCTURES (Sub-periods I-IV)

A. SUB-PERIOD IA

This Sub-period marks a new epoch in the history of habitation in this area. The main road was built during this Sub-period, to which also belong Ring-well 2 and the second phase of the street in Cutting KS-III. Ring-well 2, equated with layer 12, was discovered in an extremely dilapidated condition. The street was made of powdered brickbats mixed with mud and was separated from the earlier one by a thin clayish deposit.

B. SUB-PERIOD IB

The structures of this Sub-period comprised Floors 1 to 4 (pls. X and XII) and Wall BC, available to a height of only three courses. All the floors were built of brickbats. In the following Sub-period the entire area seems to have been

levelled after the deposit of the heavily-charred gravel-layer 9. Thus, the earlier structures of the site were almost completely destroyed. The structures of this Sub-period IB were, therefore, very few in number and almost in a dilapidated condition.

C. SUB-PERIOD II

Walls UU, VV, BR1, BR2, BR3, BR4, BD and BE, Tank 1, Terracotta Drain 1 and Ring-wells 3 and 4 were built during this Sub-period.

Wall UU was available upto a height of four courses only and was about 12 in. in width. Wall VV, available to a height of only three courses, was situated north of Wall UU and ran parallel to it. It is not unlikely that these two walls were the corresponding walls of the same room the return-walls of which were not available. Walls BR1, BR2, BR3 and BR4 constituted the most important structural remains of the Sub-period. Though the evidence was not conclusive, it is not unlikely that the house later associated with Duṭuka was originally built during this period. Walls BD and BE were very fragmentary. Of these, the former was available to a height of five courses.

The most important structure of the Sub-period II was Tank 1. Built of brick-bats, the tank was obviously of a poor construction in comparison with the other tanks. The tank, which had a total available depth of 10 ft. 10 in., was constructed in a manner that after every fourteenth course there was an offset or a ledge of about 4 in. width. At the level of each offset, the builders made two square holes in the south-western corner, one each in the southern and western side.

Of Terracotta Drain 1, only a fragment of one of the pipes was obtained. The drain seems to have been destroyed by a pit of later period.

Ring-well 3 (pl. XX A), equated with gravel-layer 9, was only partially excavated.

D. SUB-PERIOD III

Walls EE, OO, SS1, SS2, BJ1, BL1, BL2, BL3, BL4, CF1, CF2, CB2, CB1, CA, AR, AS, AT, DK, DL, DM and DN, Floors 5, 6, 7, 8 and 9, Ring-wells 5, 6, 7, 8, 9 and 10 and Soakage-jar 1 were built during this Sub-period. Walls BR1, BR2, BR3 and BR4 of the previous Sub-period continued in use during this Sub-period also.

Wall EE1, available to a maximum height of ten courses, ran east-west. The return-walls, evidence for which existed only at the corner, were completely destroyed. Two sizes of bricks were used : $19 \times 11 \times 3$ in. and $18 \times 12 \times 2.7$ in., the former being more numerous. Related to this wall was Floor 5, made entirely of brickbats. In the western corner of the floor was discovered a circular pit, 2 ft. 8 in. in diameter and 1 ft. 6 in. in depth. At its bottom was a jar (S.J. 1), of which the mouth alone could be exposed. It seemed likely that above this jar the pit contained another

jar, possibly with perforated bottom. If this assumption be correct this would be the earliest example of a soakage-jar.

Wall OO overlay the gravel-layer and was available up to a height of four courses only. The size of the bricks used was $19 \times 2 \times 3$ in.

Walls SS1 and SS2 ran parallel and possibly represented the side-walls of a drain, although the evidence was not conclusive. Wall SS1 was available up to a height of five courses only. Wall BJ1 was the southern outer wall of a house, probably of Duṭuka, situated immediately to the north of Lane 3. Walls BL1, BL2, BL3 and BL4 formed with BJ1 and BJ2 a number of rooms, the complete plan of which could not be ascertained.

Wall CF2 ran parallel to BR1, the two walls forming a lane, the precise extent of which could not be determined on account of the extensive robbings of later periods. Wall CF1 was a return-wall of CF2. Walls CA1, CB1 and CB2 also formed a room, the precise plan of which was not clear. The floor of the room was constructed of full bricks of the size of $17 \times 11 \times 2\frac{1}{4}$ in.

Wall AR was partially exposed. Only the lower four courses of the wall belonged to Sub-period III. Wall AS was possibly the return-wall. This wall flanked Lane 1 on its northern side. Wall AT, only a small part of which was exposed, flanked Lane 1 on its southern side. Walls DK, DL, DM and DN were very fragmentary.

As many as seven floors, numbered 5 to 11, belonged to this Sub-period. Complete outline of none of them, however, could be determined. The floors had one common feature, *viz.* small-sized brickbats laid in mud in a very rough manner. Floor 5 was associated with Wall EE. Floor 6 was excavated in a disturbed condition. Part of it covered the mouth of Ring-well 5. Floor 7 was associated with Ring-well 10. Floor 8 was the earliest floor in Cutting KS-III and possibly represented the pavement of the courtyard of a house associated with Jarayadeva, whose sealing was discovered immediately above this floor. It was built of gritty concrete with broken brickbats. Floor 9 was found to be extensively robbed. Floor 10 was associated with Wall AR and seemed to have represented the pavement of the courtyard of the house, bounded on the east by the main road, on the south by Lane 1 and on west by Bye-lane 2. Floor 11 was possibly associated with Walls CF1 and CF2, but on account of the extensive robbings of later Sub-period neither its outline nor its association with other contemporary structures could be determined with certainty.

Tank 1 of the earlier Sub-period was repaired in Sub-period III and a small room was built against it on its western side. According to the available evidence, the walls of the tank were raised by at least 2 ft. 6 in. A brick floor was laid inside the tank at a depth of 10 ft. 7 in. from the brim. Evidently by this time the lower 5 ft. of the tank had become filled up by the refuse of the earlier Sub-period, so that a necessity was felt to raise the enclosing walls. The discovery of the brick pavement at the bottom clearly indicated that the tank could not have been used for

the purpose of sewage since stagnated dirty water would be extremely unhygienic and would thus defeat the very purpose for which the tank was built. More probably, therefore, it was used as a receptacle of ash and dry refuse which could be periodically cleaned. The set of holes in the corners helped in getting down for periodical cleaning.

E. SUB-PERIOD IV

In this Sub-period earlier Walls AR, BJ1, BJ2, BL1, BL2, BL3, BL4, BR1, BR2, BR3, and BR4 continued in use though with slight modifications, while Walls DD, LL1, LL2, LL3, LL4, BO1, BO2, BO3 and BO4 etc. were independent erections.

On account of the new erection of these walls the plan of the house noticed earlier underwent considerable modification. Wall DD1 was available only up to a maximum height of four courses. It was built of re-used bricks of the size of $20 \times 12.5 \times 2.7$ in. Walls LL1, LL2, LL3 and LL4, forming a rectangular room, were 16 ft. 9 in. \times 9 ft. 3 in. in size, probably built along with Tank 2 below, p.). Of these, Wall LL4 was badly robbed. The walls were built of full-sized bricks.

Floors 12 to 18 belong to this Sub-period. While some of them represented pavements of the courtyards or rooms, others functioned as pavements leading to ring-wells, roads and lanes. Floors 12 and 13 were probably parts of the same floor, which was equated with Wall DD. Floor 14 (pl. X) represented the floor of the courtyard of a house. No associated walls, however, were exposed. Between this floor and Wall OO of Sub-period III there was a thick accumulation of debris containing large number of pots, some of which had stamped decorations on the body, their chief motif being a variant of the mountain-symbol of the coins. On account of the superimposition of later floors, the extent of this floor could not be determined. Floor 15 was built of brickbats laid in mud (pl. XII A). Floor 16, covering an earlier floor, formed the floor of a courtyard. Floor 17 was excavated in a completely robbed state and was superimposed by a floor of sub-period VII. Floor 18 was associated with Wall AR. It was destroyed by an extensive pit.

Tank 2 (pl. XVIII) was the most important structure exposed during the present excavation. The tank measured at the existing top level 6 ft. 6 in. \times 4 ft. 2 in. and had a depth of 16 ft. 5 in. At every sixteenth course there was a 4 in. wide ledge. In all there were four such ledges, with the result that at the lowest ledge the tank measured 5 ft. 2 in. \times 2 ft. 10 in. The size of the bricks used was $18 \times 12 \times 2.7$ in., the brickwork shows an English bonding. This was the only structure where lime had been used as mortar. Evidence for the use of lime plaster also was available. In the south-western corner of the tank there were two holes, about 10 in. deep, one each in the southern and western walls. The stratigraphy of the tank was completely disturbed by subsequent robbings.

The ring-wells were not as commonly used during this Sub-period as in Sub-period III. Only two ring-wells of this Sub-period were exposed. Of these, Ring-well 10 was in fact originally built in Sub-period III but was re-used in Sub-period

IV. Ring-well 13, newly constructed in this Sub-period immediately against the wall BL4 was excavated to a depth of 7 ft. 5 in. and showed twentyseven rings (pl. XX A).

The drainage-system of the Sub-period was marked by the use of soakage-jars. Soakage-jar 2 (Fig. 8) consisted of seven jars placed one above the other, each about 2 ft. 8 in. in height, the total depth of the sink being 15 ft. 10 in. The bottom of these jars were perforated for the passage of dirty water. The pit into which these jars were placed was roughly cylindrical in section and nearly as wide as the girth of the jars. The jars leaned against the southern side of the pit, the northern side showing brick packing, the purpose of which was to maintain the jars in position for the effective functioning of the system. Soakage-jar 3 (pls. VI A & VII A) provided the best-preserved example of this type of drainage. Out of the four jars that constituted this sink, three were excavated almost in completely intact condition. The topmost had been partially broken. Soakage-jar 3 was sunk when layer 7 was the living surface. At the bottom of the lowest jar, which was unperforated, were found a number of stones.

Terracotta Drain 3 and Brick Drain 7 (possibly covered) also belonged to this Sub-period.

F. SUB-PERIOD V (Fig. 4)

This Sub-period was marked by a great building activity at the site. More than seventy walls belonging to this Sub-period were exposed during the present excavation, prominent amongst them being Walls AA1, AA2, AA3, AA4, MM1, MM2, HH, NN1, NN2, NN3, NN4, NN5, WW1, WW2, WW3, WW4, YY, XX, AJ1, AJ2, AJ3, AJ4, AD, AN1, AN2, AN3, AN4, AN5, AM1, AM2, AM3, AM4, AM5, BL5, BS1, BS2, FK1, DA, DB, DC, AP1, AP2, AP3, AP4, AP5, AW, AY, BG1, BG2 and BW.

Walls AA1, AA2, AA3 and AA4 formed two rooms. The size of the bricks used was 18 to 17.5 × 12 × 2.5 in. Floor 19 was built at a height of five courses from the bottom of the wall.

Walls MM1 and MM2 formed a room, but the area was so much disturbed that the outline of the room and its connexion with other structures could not be ascertained. Wall HH was also built during this period but its relation either with Wall MM or Brick Tank 2 could not be ascertained. Walls NN1 and NN3, orientated north-south and available to a height of twentyone courses, were traced to a length of 21 ft. 3 in. With Walls NN2, NN4 and NN5, they formed three rooms, measuring 5 ft. 8 in. by 7 ft. 10 in. The walls probably supported a roof of tiles, the debris of which was found lying on the floor (Pl. XVI A). Wall NN2 flanked Lane 1 on its northern side. Wall BR of Sub-period IV was re-used in this Sub-period also. The difference between the two phases of the wall was best illustrated by bricks: in Sub-period IV full-sized bricks were used, whereas in Sub-period V bricks and brickbats were used without discrimination. A jar associated with

Floor 21 of this period was also excavated. Walls WW1, WW2, WW3 and WW4 were originally built during this Sub-period. All these walls formed rooms of House 1. Wall XX was built against northern face of Wall WW2, but their exact relationship however could not be ascertained. Wall YY ran parallel to Wall WW4. Walls AJ1, AJ2, AJ3 and AJ4 formed the outermost rooms of House 1. The northern room measured 19 ft. 4 in. \times 17 ft. 7 in. Wall AD, available to a height of ten courses only, screened the outer-courtyard of House 1.

Walls AN1, AN2, AN3, AN4 and AN5 formed two rooms in the southern wing of House 3. Wall AN1 was situated immediately to the north of Lane 1. In the corner formed by Walls AN2 and AN3, there were three post-holes, the exact function of which could not be determined. Possibly it was a one flap-door. Evidence for a door providing access to Lane no. 1 was provided by a post-hole in Wall AN1 (pl. XVI B). Walls AM1, AM2, AM3, AM4 and AM5 formed the three rooms in the western wing of this House. Walls AM4 and AM5 with Walls AN1 and AN3 and AN4 formed room No. 3 in the southwestern corner of the house, containing the main door of the house. The distance between the two post-holes, of which there were very clear traces in Wall AM5, was 4 ft. 10 in. Thus, even by present day standards the main door was fairly wide. The roof in room No. 1 was supported on wooden posts, the holes of which survived in Walls AM3 and partially in AM2. The distance between the two inner post-holes was 1 ft. 5 in. and between these and the outer ones was 2 ft. 5 in. In Wall AM1 there was a very small hole, which indicated the socket for the door-post. The corresponding socket seems to have been destroyed. This door connected rooms 1 and 2 of the house with the courtyard.

Walls BL1, BL2, BL3, BL4, BJ1 and BJ2 of the previous Sub-period were rebuilt during this Sub-period. Of these, Walls BL2 and BL4 showed a considerable bulge over the corresponding walls of the earlier period. The crection of Walls BL5, BS1 and BS2 completely altered the plan of House 5 in the eastern side. To the back of Rooms 3, 4 and 5 were added two rooms and a gateway. Wall BL5 was badly robbed. Walls BO1, BO2 and BO3 of the previous Sub-period were rebuilt during this Sub-period. Walls FK1 and DA formed the southern boundary of Lane 3, and Walls DB and DC probably served as blockings for the lane. Walls AP1, AP2, AP3, AP4 and AP5 formed two rooms in the western wing of House 4. The lower five courses of this complex belonged to Sub-period V. Between Walls AP1 and AN5 ran Bye-lane 2. Wall AR was rebuilt again during this Sub-period. This wall now was less wide than in the previous Sub-period. Walls AW and AY were excavated in a badly-mutilated condition, shorn of all context. Walls BG1 and BG2 provided the boundary of House 5, which was screened from the main road by Wall BG1. Wall BW was available only up to a height of six courses. The entire area around this was so crowded with structures of the later Sub-periods that it was not possible to determine the relation of this wall with other contemporary structures. The post-holes in the wall indicated that it once contained the door for the room. Walls BR1, BR2, BR4, BV, CB1, CB2 and CB3 of the earlier Sub-period were rebuilt in this Sub-period also. Drain 8 was covered and Wall CB3 was extended westwards to meet Walls CB1 and CB2 at their junctions. Attached to it and

immediately to the north of it was erected a brick column of which the base alone survived, available to a height of three courses was built of bricks with rounded edges. The sockets in Wall CB3 indicated that there was a door between this column and Wall CB1.

The floors of this period, in general, shared the characteristics of the earlier ones, in the sense that they were mostly built of brickbats laid in mud. Floor 19 was related to Walls AA1 and AA2. Its level, however, was higher than the bottom of the walls. Floor 20, built of brickbats, was associated with Wall HH. Floor 21 partly concealed the floors of the earlier Sub-period and was itself overlaid by floors of later Sub-period. It could be exposed only at places where the upper floors had already been robbed. Floor 22 was built against Wall RR and was available in a very fragmentary condition. A jar, which probably served the purpose of soakage for this floor was also excavated. Floor 23 was in the outer courtyard of House 1 and was much more carefully laid than the other contemporary floors. A post-hole in this floor has remained an enigma. Floor 24, built along Wall AD, was available in a disturbed condition; possibly it formed a part of Floor 23. Floor 25, almost completely robbed, was in the courtyard of House 3. Floor 26 formed the floor of the main courtyard of House 5 and because of its successive rebuilds it had become at least 10 brick-courses thick and in a nutshell contained the entire history of the House.

Four brick drains nos. 3-6 belonged to this Sub-period. Drain 3, running south to north along the western face of Wall AA1, was only six in. wide. It was available to a length of 13ft. The southern portion of the drain was badly disturbed. Drain 4, running west to east, was available to a length of 4 ft. 10 in. and was 8 in. wide. On account of the disturbed stratigraphy of the area, the exact relationship of this drain with Tank 2 was not clear but in all probability it discharged itself into this tank. Drain 5, traced to a length of 9 ft., was 6 in. wide. From its situation, it seemed to have served House 5. Drain 6 served the main courtyard of House 5. It was not unlikely that this drain discharged itself in Drain 5.

G. SUB-PERIOD VI (Fig. 5)

A vast majority of the walls of Sub-period V were re-used in Sub-period VI. They included AA1, AA2, AA3, AA4, NN1, NN2, NN3, NN4, NN5, WW1, WW5, XX, YY, AD, AJ1-AJ4, AM1-AM5, AN1-AN5, AP1-AP5, AY, BJ1-BJ2, BL1-BL5, CB2, BM, BP and BS. The re-builds in these walls could be distinguished either by a ledge or more often by the quality of bricks used. The portion built in Sub-period VI showed brickbats along with re-used bricks. Besides, there were a large number of new erections during this Sub-period viz. Walls TS, ZZ, AB1, AB2, AF, AR1, AJ4. Extension, AL, BL1, BH, BN, BQ1, BQ2, BQ3, BQ4, BV, BZ1, BZ2, BX1, BX2, BX3, AQ1, AQ2, AQ3, AQ4, AV1 and AV2.

A new wall was built between Walls WW4 and YY. Possibly they intended to block the passage existing between these two structures in Sub-period V. Thus,

the passage was converted into a small room used during this Sub-period for debris, refuse and dirt as evidenced by its contents.

Wall AK with Walls AJ1, AJ4 now formed a verandah immediately on the main road. In the north-eastern corner of the verandah there was a staircase, of which three steps were still intact. Its presence, implied that the house probably had an upper storey. Wall AF was built against Wall AJ. Though it was not in the same alignment, it is not unlikely that it might have been an extension on the western side of Wall AJ4.

In this Sub-period the plan of the outer portion of House 1 underwent considerable modification. Wall AL was built partly against Wall AK and partly over riding it. Strangely enough, this wall was not parallel to AJ3. Therefore, either the verandah had no uniform width or it was removed and replaced by a platform on the road, the latter alternative being more likely. The width was reduced in all probability to avoid any unnecessary encroachment on the road.

Walls AQ1, AQ2, AQ3 and AQ4, available up to nearly eight courses, formed what appears to have been a bath-room in the main inner courtyard of House 4 (Pl. XXV). These walls were built of brickbats, robbed out of some earlier structures. The floor, however, contrary to the normal current practice, was built of complete bricks. The inference of its being used as a bath-room is further confirmed by the slope of the floor and the presence of Drain 8.

Wall BM, available up to four courses only, was built to connect Walls BL4 and Wall BL5. It was roughly built of brickbats. The changes in the plan of House 5 have already been noticed elsewhere (above, p.). Walls BO1, BO2, BO3 and BO4 were abandoned. Wall BT, which was a new erection of this Sub-period formed a long room along with Walls BS1, BS2 and BS5. Wall BN was built parallel to Wall BJ2 and along with it formed a verandah 3 ft. 6 in. wide. The verandah had a pavement of bricks and brickbats. On the eastern side of it was built a pillar, the lower courses of which were made of bricks with rounded edges. Walls BQ1, BQ2, BQ3 and BQ4 were built to replace Walls BR1, BR2, BR3, etc. On the northern side, the plan of House 5 was completely changed. These walls now formed rooms and a verandah in the northern wing. The foundations of Walls BQ1, BQ2, BQ3 and BQ4 were laid in the sandy deposit that covered the entire area after the destructions of the structures of Sub-period V. Walls BV ran north to south and, with Wall BL5, enclosed a lane. It was built over the foundations of Wall CA (CB1). This wall seems to have formed the western wall of House 6, portions of which were excavated in 1937-38.

Walls BZ1, BZ2, BX1, BX2, BX3, BX4 and CB2 formed a number of rooms with Wall BV. The pillar associated with Wall CB1 was repaired and the door in Wall CB1 was completely blocked. Wall BZ, with clear traces of a door, was a continuation of Wall BK and was available in the structures exposed in 1937-38. Wall BZ2, available up to a height of six courses, projected at right angles to Wall BZ1 about 6 in. to the east of the door. The abrupt but regular terminal of the projection suggested that it once formed a column.

Most of the floors of this Sub-period were destroyed by the pits of later Sub-periods. Only four, numbered Floors 27 to 30, however, survived, but even they do not call for any particular remarks. Three of them, *viz.*, Floors 28, 29 and 30, were located in the courtyards of Houses 1, 3 and 5.

Drain 8, available only up to a limited length, served as a drain for the bath-room formed by Walls AQ1, AQ2, AQ3 and AQ4 in House 4. The passage of this drain lay underneath a staircase situated to the west of the room.

Drain 9 was one of the most interesting structures met with in this Sub-period. Two features of the drain call for particular attention : for some part of its length it was corbelled (pl. XXII B), the evidence of the knowledge and use of corbelling so early in the historical period being interesting ; further, it was provided with a terracotta strainer, which served double purpose of a filter of refuse and a preventive against the entry into the house of such animals as rats, mongoose, etc.

H. SUB-PERIOD VII (Fig. 5)

Only a few walls and floors of Sub-period VII were found to have survived but those that survived clearly indicated a change in the plan of habitation. The walls of Sub-period VI, in a majority of cases, as already discussed, were raised on the foundations of the structures of Sub-period V. From the evidence of Houses 1, 2, 3 and 5, it was apparent that the same courtyard used had been for at least three successive Sub-periods. In spite of a few additions and alterations the basic plan of the house remained the same. In Sub-period VII, on the other hand, walls of the earlier Sub-periods were altogether abandoned and, in many cases, overlaid by later floors. The bath-room formed by walls AQ1 to AQ4 was abandoned and was superimposed by a floor in this Sub-period. House 3 was now almost abandoned.

In the absence of any cogent evidence it is not possible to determine the cause of this change. In any case habitation in Sub-period VII seems to have been planned afresh.

Walls ascribable to this Sub-period include JJ1, JJ2, JJ3, JJ4, YY1, YY2, AG, AV1, AV2, BM, FK, FL1, FL2. Walls JJ1, JJ2, JJ3 and JJ4 formed a room, rectangular in shape, measuring 12 ft. 6 in. \times 6 ft. 10 in. The relation of the room with other structures was not clear. Wall YY1 with its return Wall YY2 formed a room, the dimensions of which could not be ascertained on account of extensive robbings of the area. Wall AL was the only wall of Sub-period VI which was re-used in this Sub-period. Wall AV1 and AU flanked Lane 1 in Sub-period VII. Wall BM, available only to a height of four courses, was built to connect BL4 and BL5. Wall FK2 ran parallel to Walls BL and BM and along with these formed Lane 3 in this Sub-period.

Four floors, numbered 31 to 34, belong to this Sub-period. Floor 31 was available only in a small area. A large jar was sunk into it to serve as sewage. Floor 32 formed the pavement of the room enclosed by Walls AV1 and AV2. Floor 33 was also related to this house. It completely sealed the room formed by Walls

AQ1-AQ3 of the preceding Sub-period. Floor 34 formed a brick pavement of the main road. Of particular interest in this Sub-period are 3 hoards found in House 5 at varying depths in earthen pots. Of these, Hoard 1 alone seemed to be undisturbed.

Brick Tank 3 was built over the extent tops of Walls AM5 and AN5 and was much smaller than Tanks 1 or 2 but followed the same structural details of ledge and holes etc. It was of a poor construction and was too small to be anything except a septic tank.

Drains 10 and 11 belonged to this Sub-period. Drain 10 discharged itself in Lane 1 while Drain 11 cut through Wall FL on the eastern side of the road.

I. SUB-PERIOD VIII (Fig. 5)

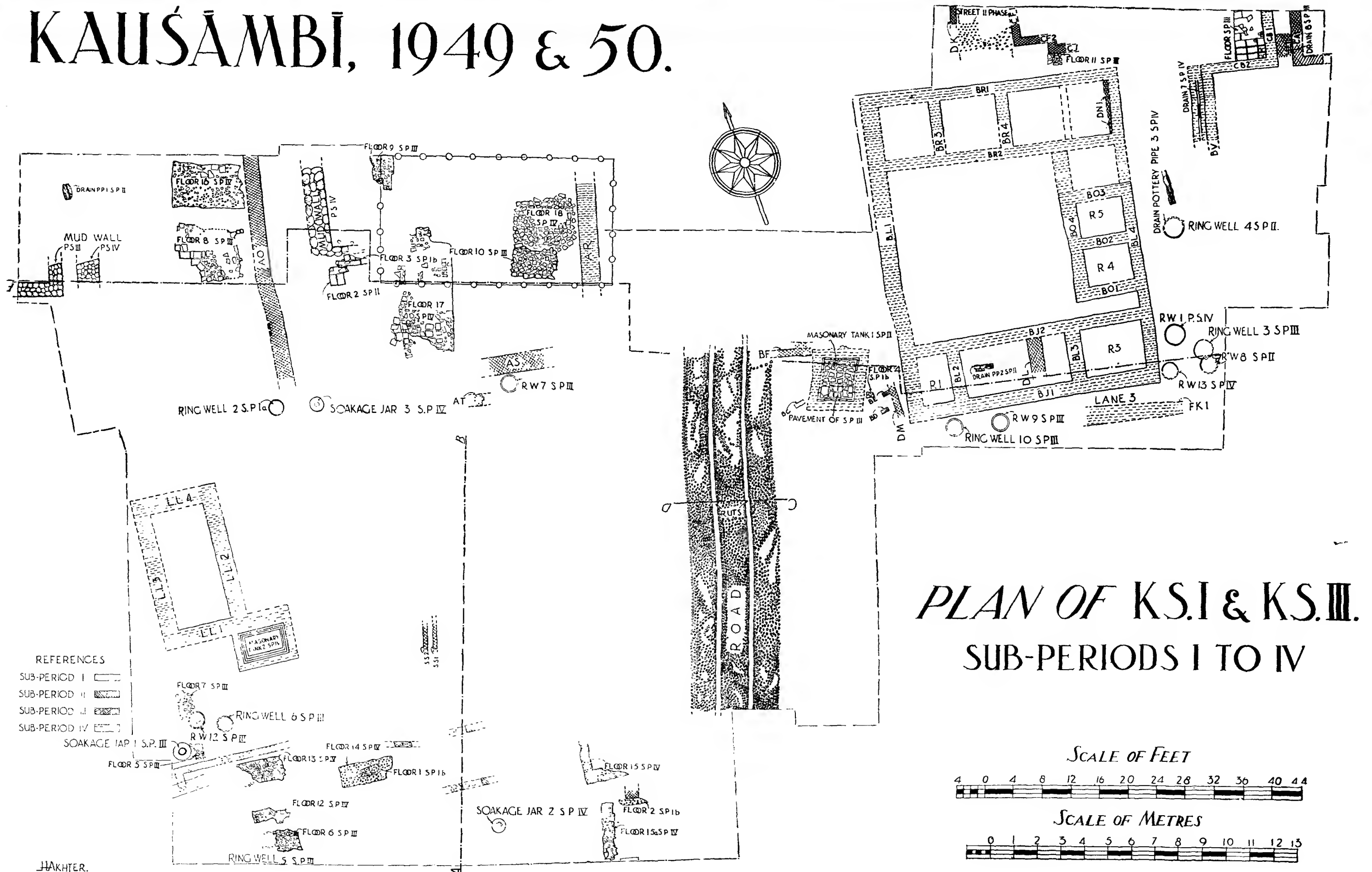
Most of the structures of Sub-period VIII were completely destroyed after the desertion of the site followed by cultivation etc. Consequently, this Sub-period was represented by a few dilapidated walls and floors such as Walls AC, CX1, CX2 and CX3 and Floors 35-37.

Wall AC, running north-south was available only upto two courses. Its approximate width was 2 ft. 8 in. Walls CX1, CX2 and CX3 formed a room measuring 5 ft. \times 4 ft. 3 in. Wall AL of Sub-period VII was sealed by these Walls. Wall CX2 in fact directly overlaid a portion of the foundations of Wall AL.

Two floors nos. 35 and 36 belonging to this Sub-period were exposed. Most of the bricks of Floor 35 were still in that. Two objects associated with the floor deserved particular attention, (1) a roughly circular pit of uncertain use, with a diameter of 10 in. and (2) a well-built Drain 10. Floor 36 represented the pavement of the road in the latest phase.

Drain 12 was built for the inner courtyard of House 1. Full-sized bricks measuring 17 \times 12 \times 2.5 in. were used. The channel was only 6 in. wide.

KAUSĀMBĪ, 1949 & 50.



KAUSĀMBĪ, 1949 & 50.

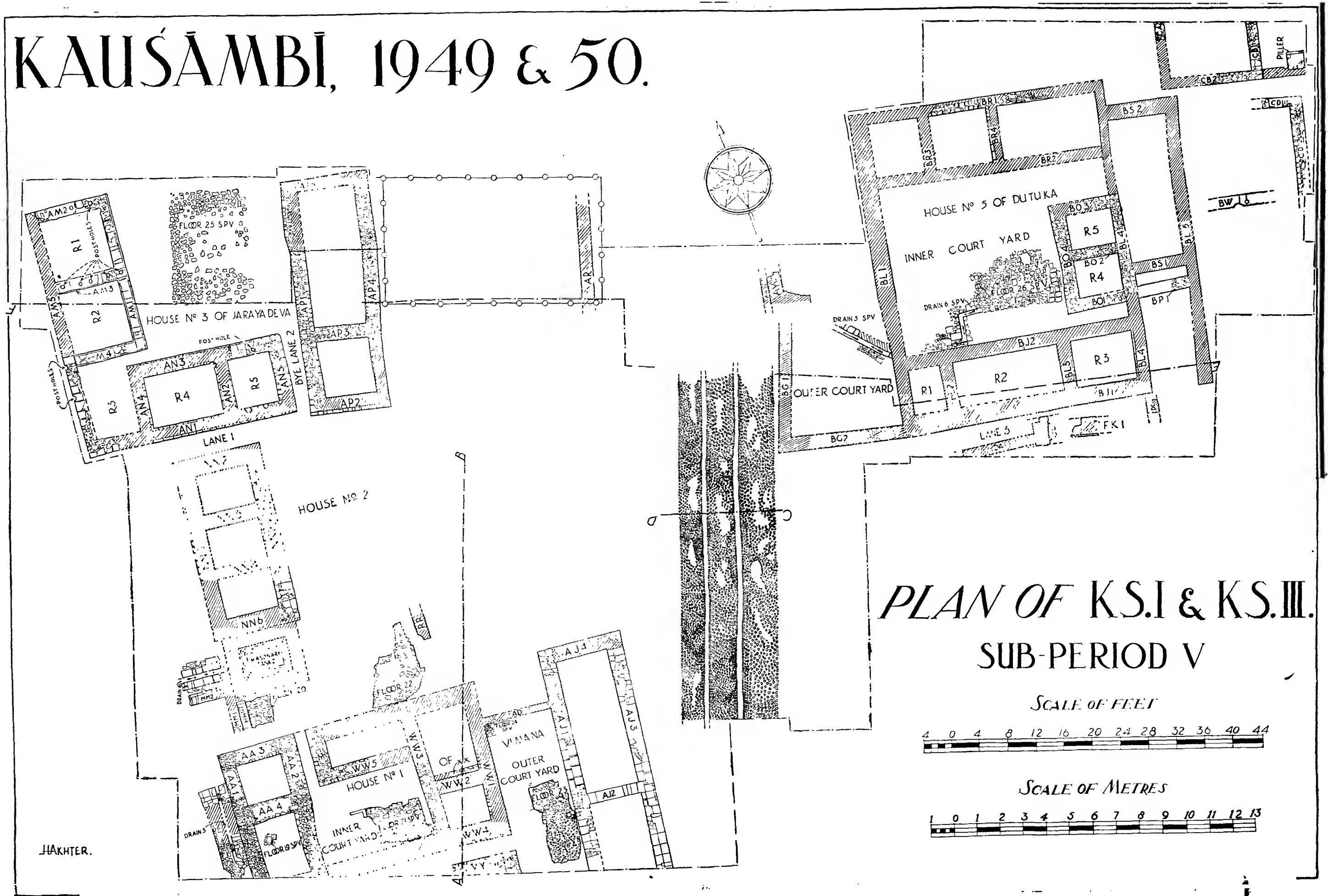
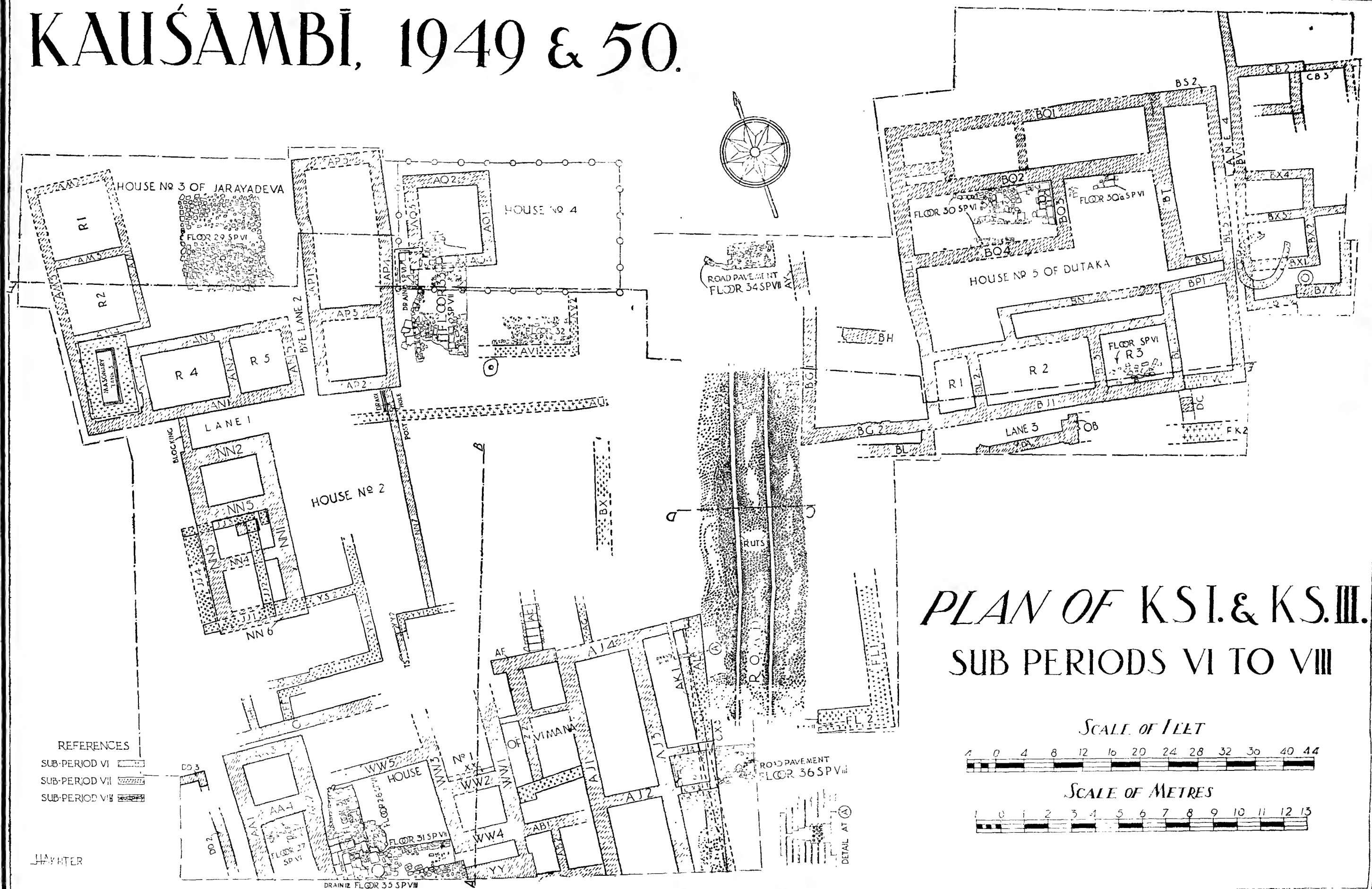
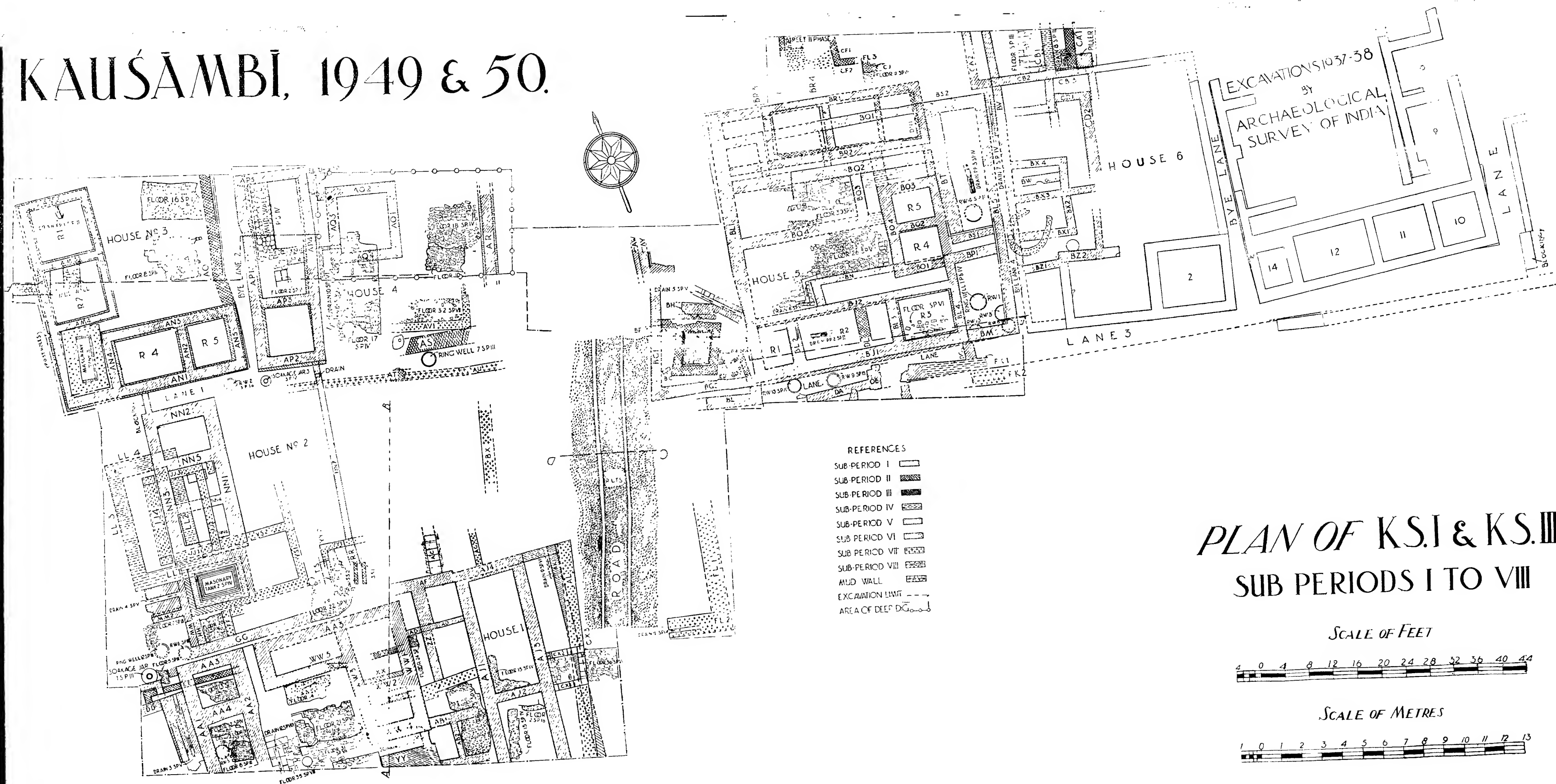


Fig. 4

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HAKHTER.

Fig. 6

KAUSAMBI, 1949 & 1950: SECTION ACROSS THE ROAD (SECTION C-D ON PLAN)

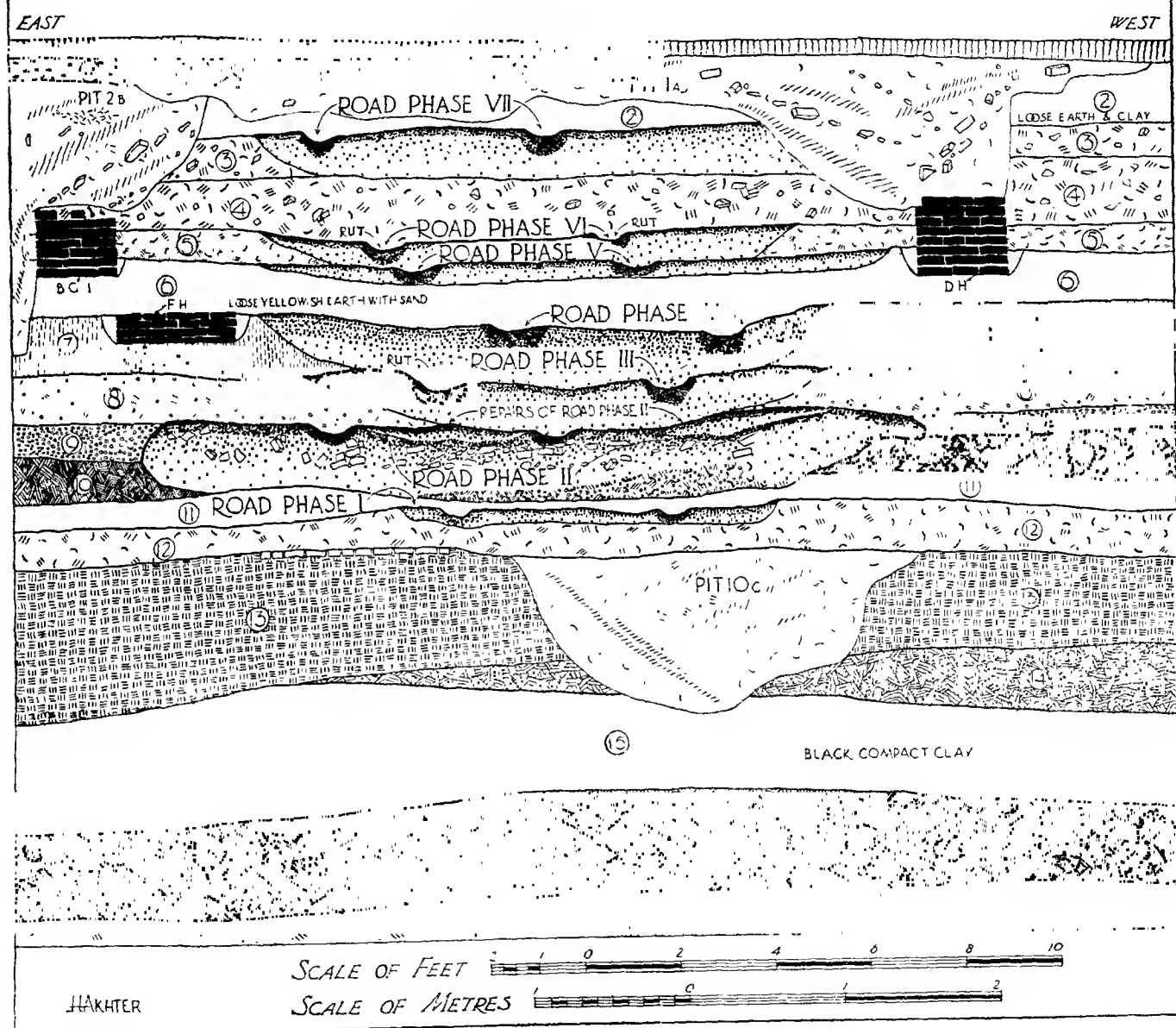


Fig 7

KAUSĀMBĪ, 1949: K.S.I (SECTION A-B)

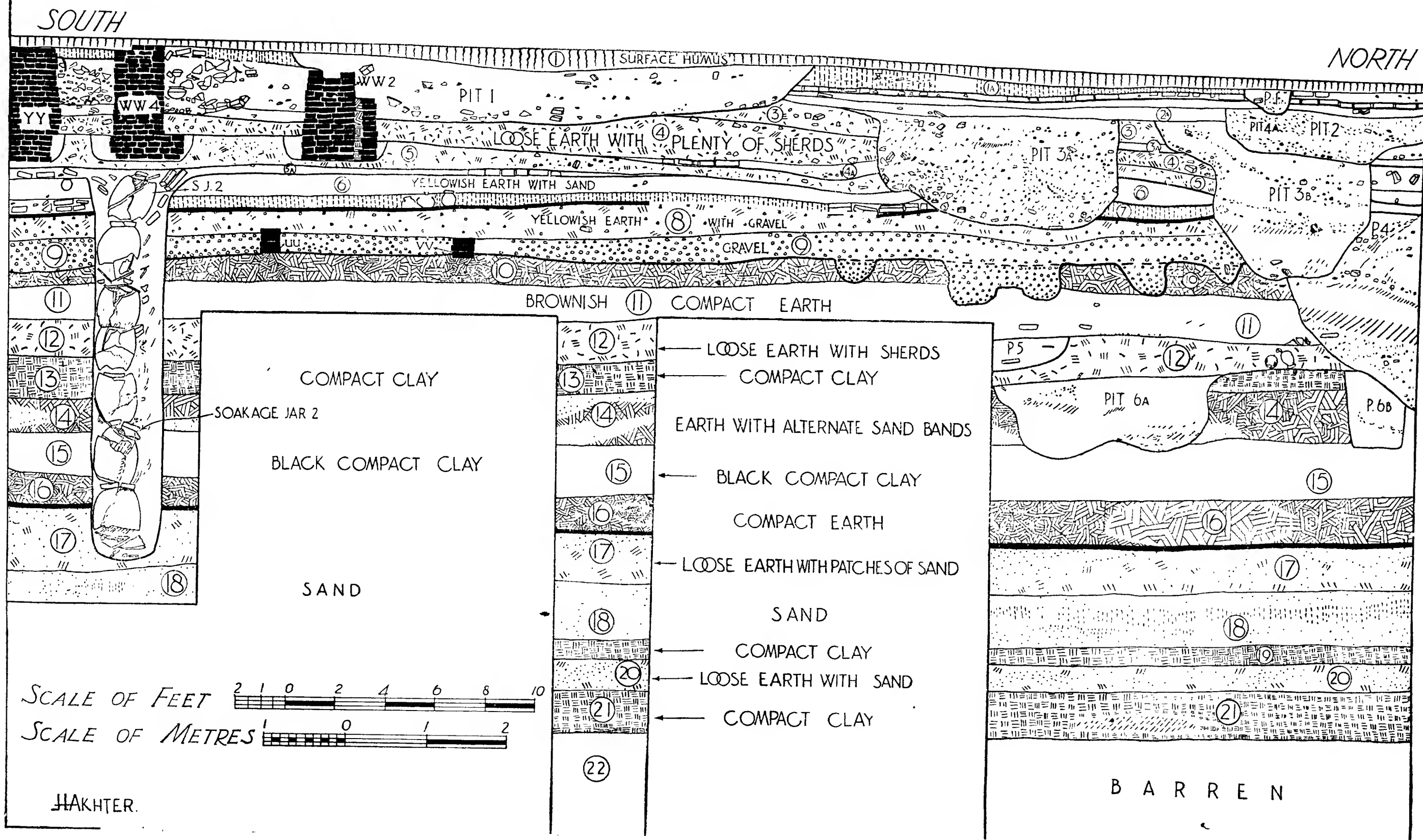


Fig. 8

KAUSĀMBĪ, 1949: K S.I (SECTION A-B)

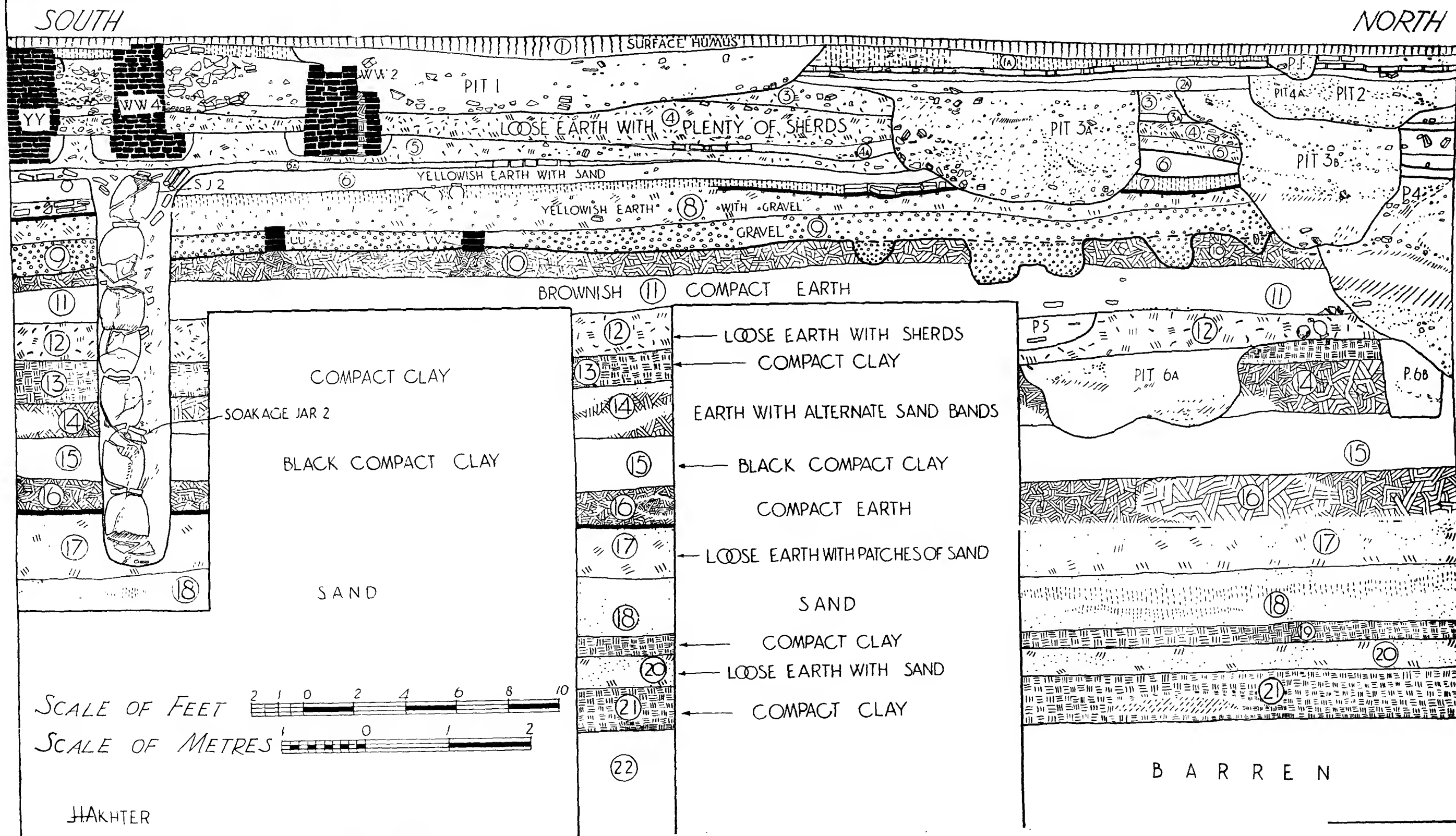


Fig. 9

CHAPTER VI

TERRACOTTA OBJECTS

1. HUMAN FIGURINES

DURING the present excavation a very large number of terracotta figurines were recovered. Although many of the types found are already known from previous excavations, quite an appreciable number of them represent new types of topical interest.

The terracotta industry had a long and almost continuous existence at the site, the technique of manufacture varying with different Periods. The figurines were made either by hand or in moulds or by a combination of the two techniques.

In many cases certain portions of the hand-made figurines, notably the eye, eye-socket, nostril, ear-lobe, lip and hair, were made by a sharp instrument (pls. XXIII A, 2; XXVII A, 1-5; XXX B, 1-4; XXXI A, 1-5; XXXII A, 1-5; XXXIV A, 1; and XXXV B, 1-6). The large or heavy hand-made figurines were produced by joining together before firing a number of separately-prepared pieces. Sometimes tenons were also provided. The figurines from earlier levels, viz., Pre-structural IV to Sub-period IB, were of better quality, while those of the later Sub-periods were cruder in appearance and were seemingly prepared out of coarse and gritty paste.

Mould-made figurines constituted the larger proportion and occurred from Sub-period IA right up to Sub-period IV, but were more prolific in Sub-periods II and III.

The figurines fall into two groups: (a) those showing deep relief, highly ornamental and set against the background of rosaces (pls. XXIII C-XXIX A); and (b) those showing low relief, crudely made and characterized by the complete absence of decorations (pls. XXX A-XXXIV B). The former group represents the true Indian tradition, while the latter shows certain foreign ethnic types, notably Śaka-Parthian (below, p. 59).

Some of the figurines in the first group were prepared out of double moulds (pls. XXIV B, XXV A and XXIX A). After the removal from the moulds, the pieces were joined as indicated by the seam. The figurine representing the elopement of Vāsavadattā (pl. XXIV B), though produced from a double mould, was done in a different technique: the two moulds were set against each other and firmly held by some thread, and wet clay was pressed into the joined moulds from an aperture probably at the bottom of the moulds. The very clear finger-marks on the interior of the elephant clearly show that clay was carefully pressed into both

the moulds, leaving the interior of the figurine hollow. In one case (pl. XXVIII) multiple moulds seem to have been used.

The terracottas produced from moulds offer very little evidence of reworking. Only in rare cases certain additional decorations were added with small stamps. Decorations and other floral designs like the rosaces were evidently stamped after the removal from the mould. Applique decorations are not very common in this variety.

The modeller of the hand-made figurines invariably made use of applique decorations. This is particularly true in the case of Śaka-Parthian figurines (group II), where the ornaments and even the folds of the drapery, including head-dress, have been shown by applied bands of clay. Firing, because of uneven section, was not uniform.

Save for two examples, the entire assemblage of the terracotta figurines was of pale terracotta-red colour, the exceptions being grey (pl. XXIII A and B). Usually the exterior surface of the figurines was coated with the thin red slip consisting of either red ochre or a local clay known to the potters even now as *kabis*. Only in two cases was there evidence of the use of lime as a surface-dressing (pls. XXIII A, 2 and XXV A), surviving only in certain crevices of these figurines.

A remarkable feature of many of these terracotta figurines is their complete stylization and standardization. A grey terracotta figurine (pl. XXIII A, 1) conforms to a pre-determined iconographic pattern¹ and has analogies from Buxar and Patna, at both of which places the types seems to have a wide range in terms of chronology.

The figurine with a bi-cornate head-dress (pl. XXIII B, 1) is also known from other sites particularly Mathurā.² In the case of figurines 1 and 2 on pl. XXIII C, the standardization is unmistakable. The various elements in the composition of the two figurines, *e.g.*, the characteristic expression of the oval face, details of decoration and ornament and even the background of rosaces are clearly defined and occur exactly in the same form as in other figurines of these types. The five emblems, *triśūla*, *raja*, *dhruja*, etc., occur in examples from other sites like Mathurā, Ahichchhatra, Tamluk and Rupar. The crown also has parallels elsewhere.³ The *Yaksha* (pl. XXV B, 1) is closely paralleled by almost similar examples from Mathurā, Basarh and Lauriya Nandangarh. Even in rare types (pl. XXV B, 2), the stylization of the details of the floral crown, ornaments and the general pose speak of standardization. The floral crown, which is the most characteristic element in this case, also occurs on certain figurines at Mathurā. This also holds good in the case of all the three figurines on pl. XXVI B.

The Śaka-Parthian figurines represent some well-known types of divinities occurring at sites outside India. It is clear, however, that 'the craftsman attempted

¹ V S. Agrawala, 'Terracotta figurines of Ahichchhatra, District Bareilly, U P.', *Ancient India*, no. 4 (1948), p. 106.

² A.K. Coomaraswamy, 'Archaic Indian Terracottas' *Ipek*, 1920, pp. 68, 69.

³ F.H. Johnston, 'A Terracotta figure of Oxford' *Jour. Ind. Soc. Oriental Art*, X (1942), p. 96.

to give expression to the formula comprising certain well-defined features' and that 'the figures conformed to a pre-determined iconographic pattern'.

In spite of the differences in theme and material, the art represented by these types, in all its essentials, is the same as finds expression in more ambitious examples in stone at Bhārhut, Sāñchi, etc. 'The representation of the human figure is in every case conceptual rather than realistic'.¹ The benign smile in a figurine (pl. XXIII A, 2) is not so much a physical attribute as an expression of affection and tenderness for all creatures. The heavily bedecked *yaksha* and the *vrksha*-devatā (pl. XXV B) also are examples of the same tendency. The same is true of the other figurines (pl. XXIII C).

Another quality that these figurines (pls. XXIII C-XXVI B) share with the contemporary sculptures of the second-first century B. C. is the archaic character of the figurines. These figurines are all conceived as in relief and have been represented in a flattened form. There is hardly any suggestion of volume. In spite of the efforts of the coroplast to suggest movement by the position of the hand (pl. XXVI A), sometimes by making the right hand rest on the waist (pl. XXV B, 1 and 2, pl. XXVI B, 1 and 3) by the flexed right or left leg (pl. XXV A, 1, pl. XXV B, 1, pl. XXVI B, 3) or by the general pose (pl. XXIV A, pl. XXVI A, 1 and 3), the figurines lack rhythm and movement. There is, however, an exception to this mode of representation (pl. XXVI B, 3).

Between these terracotta figurines and contemporary sculptures there is a family-likeness in dress, ornaments and in decorative motifs in general. The garment, as in contemporary sculpture, is extremely conventionalized. The object of the dress here, as in contemporary sculpture, is to bring out the contours of the body. The breasts (pl. XXVI B, 1, 2 and 3; pl. XXV B, 2) and the mount of Venus (pl. XXVI B, 1) are prominently displayed. There can, therefore, be hardly any doubt that these terracotta figurines are expressions of an art-tradition and a culture-complex deeply rooted in the soil of India, particularly in the Gangetic valley. Figurines on plates XXVII A, and XXVIII though later in date, spring essentially from the same tradition. These figurines depict different themes. The secular character of some of these is apparent from different spheres of life. The amorous couple, (pl. XXIV A), elopement of Vāsavadattā (pl. XXIV B), and goshṭhī or merry-makers' party in *śakaṭa* (pl. XXVIII) undoubtedly derive their theme from contemporary social life.

A majority of the figurines, however, seem to have a religious connotation. Amongst these may be mentioned the mother-goddess (pl. XXIII A, 1-2), Māyā or Lakshmi² (pl. XXIII C), the three-eyed god (pl. XXVII A, 5) and the nāgī and Naigameśa types.

From the complete standardization of the dress, ornament, decoration and the general pose and expression of the body it is clear that the coroplast was trying to

¹ Benjamin Rowland, *The Art and Architecture of India*. (1953) p. 55.

² Johnston, *op. cit.* pp. 94 ff.

translate into clay a well-defined formula sanctioned by long usage and convention. It is difficult to explain the production of pieces, almost identical in every important detail in such distant areas as Rupar, Mathurā, Kauśāmbī, Pāṭaliputra, Basarh, Lauriya Nandangarh and Tamluk on any other assumption except that they gave expression to some well-defined religious conventions and were the products of popular religious cults. They seem to be products of a hide-bound tradition which prescribed every detail, which the coroplast was only translating into clay almost mechanically.

It has been asserted by some students of ancient Indian history that 'literature and inscriptions deal almost entirely with what may be called the official cults'.¹ The terracotta figurines discussed and illustrated here, notably on pls. XXIII A, B and C, XXV A and B, XXVI A and B, XXVII A and XXXVIII A, seem to be valuable documents of popular religion about which our ancient Sanskrit literature leaves us so ill-informed particularly after the ascendancy of the theistic sects. A recent surface-collection from Kauśāmbī, now in the collection of Shri Jineshwar Das of Allahabad, actually shows a female figurine of this group in an enclosure. It thus fully confirms the view put forward here that many of the figurines of this group are votive and represent some popular religious figurines. Considered from this point of view they are of great significance as they take back the antiquity of some of the theistic forms of popular religion to a date much earlier than commonly assumed.

Figurines recovered from Sub-periods V and VI constitute a homogeneous group, sharply defined and differentiated from the figurines of the earlier Sub-periods (pls. XXIII-XXIX A). The theme and the technique of manufacture are entirely different. Almost all the figurines of this group (pls. XXX A—XXXIII A and B) are hand-made and crude in appearance. Usually different parts of the body were made separately and added together before firing. The clay was much coarser and not as levigated as in the case of early hand-made figurines (pl. XXIII A and B). Firing was uneven and the core invariably remains insufficiently burnt. They provide the earliest specimens of free-standing terracotta figurines in the round. The technique of representation is entirely different from that of mould-made figurines (pls. XXIII B to XXIX A).

The change in the theme is still more pronounced. Even a cursory glance at these figurines leaves no room for doubt that they represent a fundamental departure in tradition. The reclining figurines (pl. XXXI, 2, 3 and 5), drummer (pl. XXX B, 1), women with double-knobbed head-dress (pl. XXXI 4), men with peaked caps (pl. XXXII A, 1 and 2), mother-goddesses with heavy breasts (pl. XXX A) and devotees placed in the shrine of the mother-goddess (pl. XXXIV B and XXXV A and B) are objects completely foreign to Indian tradition. A study of the dress, ornament and decoration of these figurines also demonstrates clearly the change in the cultural tradition. The male and female dress, the *dhoti* and the *uttariya*, so very familiar from Sāñchi, Bhārhut, Amarāvati and contemporary terracotta material from different parts of northern India, is completely absent.

¹ *Ibid.*, p. 101.

On the other hand, these figurines offer for the first time evidence of the use of full-sleeved stitched garments for the male and female, viz., trousers, chitons, himations etc. (pls. XXX A, 1 ; XXX B, 2 and 5 ; XXXIII and XXXVI A). The fine and heavily-bedecked head-dress of the figurines (pls. XXIII C and XXIX A) is replaced by uncouth and barbaric peaked caps. The rendering of the details of the body in these figurines has none of the elegance, tenderness and sophistication of the truly Indian figurines. If they are less stylized they are, on the other hand, more virile and bear a much greater sense of movement and life. The rhythm and the realistic touch in the drummer (pl. XXX B, 1) is altogether missing in the truly Indian terracottas. The male heads (pl. XXXII A) are much more masculine, rugged, uncouth and forceful than the other male heads (pl. XXVII A). These figurines have very close parallels in objects recovered from Śaka-Parthian sites outside India. The seated mother-goddesses (pl. XXX A), the votive tank, the drummer with a peaked cap, the dancer with bell-shaped base finished off at hip-line, the musician (pl. XXX B) and the reclining woman (pl. XXXI, 3 and 5) are well-known Parthian types and have close parallels from various Śaka-Parthian sites. The fashion of hair-dressing described as the two-knobbed head-dress by Van Ingen has been remarked ever since Parthian figurines were known.¹ The tall pointed cap (pl. XXXII A, 1-2 and pl. XXXIX B) is known to have been an attribute of oriental priests in Śaka-Parthian regions outside India in different periods.²

The complete absence of these types from the earlier levels, coupled with their outlandish shapes, sharp differences in dress, ornament and decoration and close parallels from distant Śaka-Parthian sites like Seleucia, Dura, Uru-Warka, etc., leave no room for doubt that they represent the Śaka-Parthian cultural stream. Stratigraphically they all belong to the first and second century A. D. a period when the Śaka-Parthians, through conquest and trade, had made deep penetrations into north-western and northern India. Figurines 1 and 2 on pl. XXX A and figurine 1 on pl. XXX B are representations of or are connected with the great mother-goddess. It is clear from all these three specimens that they were meant to be shown seated in shrines of mother-goddesses or votive tanks. The ground of the shrine on pl. XXX A, 1 can be clearly seen underneath the feet of the seated deity. A surface-find, recently acquired, actually shows an identical type seated against the wall in a shrine of the mother-goddess. In pl. XXX A, 2, the bottom of the figurine clearly indicates that it was detached from a shrine. The back of the drummer with peaked cap (pl. XXX B, 1), again clearly shows that it was set against the wall of a shrine. These are, therefore, either actual representations of the mother-goddess or are connected with her cult.

Three specimens of reclining female figurines are illustrated (pl. XXXI, 2, 3 and 5). Of these, 2 and 5 are draped and 3 is nude. For the meaning of these we have to depend upon the evidence of Seleucia and other sites, where they have been identified as the oriental mother goddess.³

¹ W. van Ingen, *Figurines from Seleucia on the Tigris* (University of Michigan, 1939), p. 36; also V.S. Agrawala, *op. cit.* (1948), p. 125.

² Van Ingen, *op. cit.*, p. 23.

³ Rostovtzeff, *Yale Class. Stud.* 5 (1935), 180; as quoted by van Ingen, *op. cit.*, p. 21.

Plate XXXI, 4, a female head with two knobbed head-dresses, was disjoined from its body (pl. XXXIII B, 1). Similarly, the female head with two knobbed head-dresses and a seated female with a child in the lap (pl. XXXIII B, 2) represent the mother-goddess.

The musicians and the dancers (pl. XXX B) seem to have had at Kauśāmbī as elsewhere a religious or musical meaning and they were attached to the shrines of the mother-goddess. As pointed out above, the evidence in case of the drummer with a peaked cap is decisive.

The religious character of the votive tank is recognized by all students of the subject. The popularity of this type is shown by its comparative frequent occurrence. In certain cases a bird is shown perched on the wall (pl. XXXV B 2). In some other cases lamps are set on the top of the walls or at the base of the shrine (pl. XXXIV B). That the seated figures are devotees of the mother-goddess is made clear from a recent surface-acquisition, which shows three drummers seated inside against the wall of the tank or shrine (pl. XXXV A). The type as reconstructed from all these examples closely conforms to similar types at Taxila and Ahichchhatra.

In the present stage of our knowledge the real meaning and significance of the male heads (pl. XXXII A) cannot but remain obscure. Some of them, particularly the ones with a peaked cap and beard or with long pointed furrowed cap, may be representations of priests.

Many sites in north India have yielded terracotta figurines of Śaka-Parthian types. Gordon has shown conclusively that many of the figurines of the so-called Hellenistic style occurring in the Gandhāra area, from Jalalabad to Taxila, are Śaka-Parthian.² His Mathua figurine and also the figurines from Basrah with Iranian caps or similar figurines from Nandangarh, Sankissa and Hastināpura clearly attest to the occurrence of these Śaka-Parthian types in the interior of the Gangetic valley. The votive tanks and dwarf musicians from Ahichchhatra³ are significant pointers to the same direction.

In view of the material referred to above, the occurrence of the Śaka-Parthian types at Kauśāmbī poses a very important question. Stratigraphically they belong to the first-second century A. D. It is difficult to believe that such crude and fragile material could have been imported from a distant place. In all probability, therefore, they are local products to meet the religious requirements of a group of people at Kauśāmbī and elsewhere. The occurrence of many Śaka names in the inscriptions, excavated subsequently in the Ghosītārama area of Kauśāmbī, lends further support to the view that there was some colony of Śaka-Parthians at Kauśāmbī in the first-second century A. D. It is difficult to explain the occurrence of Śaka-Parthian terracotta types during this period at Mathurā, Ahichchhatra, Sankissa, Kauśāmbī, Nandangarh and Basrah except in terms of active Śaka-Parthian contacts during this period.

There is yet another class of terracotta figurines (pls. XXVII A, 4 and 5; XXXVII A and XXXVIII A) prepared both by hand as well as by mould. They occur

¹ D.H. Gordon, 'Early Indian Terracottas', *Jour. Ind. Soc. Oriental Art*, XI (1943), pp. 160 ff.

² Agrawala, *op. cit.* (1948), p. 125.

in Sub-periods V to VIII. The moulds of these Sub-periods have, however, nothing in common with the moulds of Sub-periods, II to IV. These moulds lack the elegance, refinement and exuberance of details in background, in decoration etc. of the earlier series. They are rough, crude and shallow and the figurines produced therefrom are practically devoid of ornaments and decorations and look like impressions in clay. The technique in the case of hand-made figurines does not call for any special notice. Complex figurines are scarce. The figurines depict new ethnic types resembling the Kuṣāṇa-Yuechi, for, the long face, prominent nose, protruding lips, prominent cheek-bones and sunken cheeks are strongly reminiscent of similar figures on Kuṣāṇa coins. It was in this period that Kauśāmbī passed under the rule of the Kuṣāṇas.

Most of the figurines of the Kuṣāṇa Period also have an undoubted religious connotation (pls. XXVII A, 5, XXVII B and C). Male and female Naigameśa types occur in fair abundance during this period, many of them similar to corresponding types at Ahichchhatra¹ and also lithic examples from Mathurā. The distribution of the type over practically the whole of the upper Gangetic plain shows clearly the popularity of the cult. Some of the figurines, notably those representing snake-hoods, recall the prevalence of a cult which survived from about the third century B.C. into the second century A.D. The rendering through this period shows three stages. In the earliest it was realistic but in the later stages it was tending to be anthropomorphic. The figurine illustrated here (pl. XXXVIII A) is fully anthropomorphic. Attention has been drawn to the place of nāgas in ancient Indian art by Vogel.² Other figurines showing religious connotation include the mother-goddess (pl. XXX, 1). The drummer and the musician (pl. XXXVII B, 3 and 5) seem to continue the Śaka-Parthian cultural tradition in the Kuṣāṇa period. Their religious connotation is obvious.

The terracotta figurines of Sub-periods VI and VII, though extremely crude in workmanship, are extremely important for the study of contemporary art. The coroplast, a common craftsman, was becoming familiar with different racial and ethnic types and in producing terracotta figurines he gave expression to this new knowledge. It is quite certain that in the first and second centuries A. D. the Śaka-Parthians and the Kuṣāṇas were not an unfamiliar sight to the citizens. Both these races, therefore found a fruitful expression in the terracottas figures of the period.

The evidence of the terracotta industry is in accord with that of sculpture, architecture and palaeography. The Kuṣāṇa impact created a profound impression on the social organism. The influence of these new stimuli is writ large on the terracotta industry of north India. The technique, the theme and the assemblage of religious and lay figurines of this epoch remained practically unaltered till the emergence of the Gupta power in the fourth century A.D.

The following selected examples are illustrated.

¹ Cf. Agrawala, *op. cit.* (1948). pp. 134-135.

² J. Ph. Vogel, *Indian Serpent Lore or the Nāgas in Hindu Legend and Art* (Leiden. 1926).

A. INDIGENOUS TYPES

Pl. XXIII A

1. Female figurine, broken below the neck. The nose is extremely rudimentary formed by pinching the clay in one continuous projection with the head. The mouth is small and inconspicuous indicated by a short incision or slit. The eyes are indicated by round diamond-shaped, hollowed out sockets not in symmetry. The head is worn out. Possibly the hair was indicated by short indentations. There are clear traces of three necklaces in applique, two with indentations regularly spaced directly on the chest and the third below the two. It has the appearance of what Coomarswamy describes as *chokar*. The arms are extended horizontally.

Grey colour ; unbaked ; hand-made. Pre-structural IV.

The dating of the figurine is important. It was discovered in a decidedly pre-Mauryan level being one of the earlier layers of the N. B. P. Ware Period, ascribed to *circa* sixth-fifth century B.C.

2. Female figurine, broken at the neck. The nose is prominent formed by pinching the clay, showing a projection continuous with the forehead. The forehead is small and receding. The eyes are large with sharp pointed ends shown by deep incision. The pupils are also indicated. The eyebrows are suggested by light projection over the eyes, and nostrils by two pin-holes. In the mouth, which is shown as a mere slit, the lips are prominently worked out. Depression around the mouth brings the cheek bones, the cheeks and the chin into sharp relief, though by itself the chin is rudimentary. Neck is round and graceful. The ear is in appliqué with a large round earlobe convex from within and concave from without, internally punched with a decorative pattern consisting of a circular dot in the centre with radiating lines touching the circumference. There are four perforations in the head. These were possibly intended to receive either locks of hair or some incense during worship.

Hand-made with prominent marks of finger-tips ; the whole figurine has a bright red slip and had an outer coating of lime of which there are still ample traces. Sub-period IA.

The figurine is important¹ because of its identity with the Buxar figurines notably series B No. 1.² Some of the specimens from Buxar in this series have large breasts No. 6 supports a child which is significant. It has in all probability a genetic relationship with the mother-goddess of the archaic type (pl. XXX, 1), as shown by the similar treatment of nose, mouth, etc. In case the perforations in the head were meant for the insertion of some incense-stick, the figurine may represent a cult-object. That here, as well as at Buxar, it 'conforms to a pre-determined iconographic pattern' is obvious. Hence the probability of its being the mother-goddess is quite plausible. The type seems to have been sufficiently popular at Kauśāmbī where it survived for a long period. In spite of variations in size, it retained all the essential characteristics.

Pl. XXIII B

1. Head and fragmentary bust of possibly a female figurine². The distinguishing features are a bicornate head-dress. Some sort of a turban in the manner of two horn-like volutes is arranged on the head. While the right one is divided into three tiers of which the upper and lower are decorated by vertical incised lines, the left one is divided into two tiers. The base head-gear from which the two

¹ Dr. A. Banerji Sastri in Jour. Bombay Hist. Soc., vol 3 (1930); Series B, nos. 1 to 7. (facing pp. 190 and 192).

² Coomarswamy, *op. cit.*

volute arise is also arranged in three tiers. The face is oval. Ornaments consist of large circular rings in the ear with bead-like indentations on the circumference, a thick band around the neck and traces of possibly a *chhannavīra*. The right hand rests downwards along the body and the left is held upwards holding something. The scarf is placed on the left shoulder. The figurine has three bangles on the wrist. On the top centre there is a hole for suspension against a wall. The type is also known from Mathurā.

Hard grey clay ; produced out of single mould. Sub-period IA.

2. Bust of a female figurine, broken at the neck and the navel. Its characteristic features are the ornaments consisting of a flat band forming the necklace round the neck and a *chhannavīra*.

Red smooth clay and red slip ; firing rather indifferent ; core burnt to grey-black ; hand-made. Sub-period IB.

Pl. XXIII C

1. Female figurine. Facial features and the arrangement of hair are almost the same. The hair above the forehead is adorned with two strings of pearls decorated at each end by two rosaces, or possibly full-blown lotuses. The head-dress or *sari* covering the head is decorated with three thick bands into which are woven at regular intervals nine pointed rosaces. Above these there is a fourth band consisting of rosaces inside a circle from which issue petals on all sides. The bands are applied to headgear and are stamped with the rosaces before firing, only one stamp having been used. Sometimes the stamps over-ride each other.

Mould-made. Sub-period II.

2. Female figurine with an oval face, a broad stumpy flat nose, a rudimentary chin, an inconspicuous receding forehead and joined but clearly-marked eyebrows. Facial expression bears general resemblance to figurines of the early Indian sculptures from Bharhut and Sāñchi. Decoration and ornamentation of the figurine, which has a marked similarity with the figurines described by Johnston, call for particular attention. The background against which it is set is decorated with a chain of stamped (eleven pointed) rosaces, representing, as Johnston points out, stars or flowers. The hair is so arranged as to give the impression of an arch consisting of brackets the more prominent being the central one directly on the forehead. The hair above the forehead is decorated by three strings of beads laid in a triangular fashion across the forehead. The three strings culminate on each side just above the temple in six pointed rosaces. On both sides of the head there are two turban-like rolls, the right one being partly mutilated, the left one is decorated by two eleven pointed rosaces. Stuck into the roll are five emblems, the bottommost of which is certainly an axe, the next two of which may be *vajra*, the identity of the fourth of which is uncertain and the fifth and topmost of which may be a *dhvaja*. The significance of the five emblems is extremely problematic. From the rolls descend two pairs of three strings suspended from a cap. Between the two rolls is the crown decorated by radiating rays superimposed by eight rosaces or possibly full-blown lotuses. The ears have two large button-and pendant-ornaments. The buttons, broken in this case, are circular and were possibly decorated by rosaces. They are suspended from the lobe with the help of the pendants.

Mould-made. Sub-period II.

The figure, according to Johnston, represents some divinity probably *Mayā*. The presence of the axe, *vajra* and radiating rays in the crown and the predominance of rosaces, possibly full-blown lotuses, all suggest a solar affinity. The goddess, therefore, may be *Lakshmi*. The use of these five emblems in ancient centres like *Kauśāmbī*, *Ahichchhatrā*, *Mathurā* and *Rupar* is not without significance.

Pl. XXIV A.

Plaque showing a couple reclining on a couch in an amorous posture. The couch seems to have

⁵ Johnston, *op. cit.*

been made of cane. The seat is covered with a soft cushion of which portions are hanging out. There is a *pada-pitha* in front on which rest the feet of the couple. The man wears a turban leaning to the right and a heavy garland. He holds the lady by her waist. The lady is seated in the lap of the man with her face half-turned towards him. One of her hands rests on the chair behind the back of the man; with the other she touches her ear-ring (completely defaced in this plaque). The ornaments of the lady, with the exception of bangles on the feet, are not clear. The background is decorated with a large number of rosaces.

Terracotta-red material with bright red slip; mould-made¹. Sub-period III.

Pl. XXIV B

Broken portions of an elephant with riders. Forepart of the elephant including its trunk is intact. On the elephant are seated two persons possibly a male and a female. The female seems to be sitting behind the male leaning against his back and shoulders and holds a purse in her hand.

The figurine probably represents the elopement of Vāsavadattā², the Ujjain princess, with king Udayana of Kauśāmbī. The fugitives eluded their pursuers by distributing gold coins.

Originally reddish, and then dipped into light-red solution. Produced from a pair of moulds joined together, in which wet clay was pressed with fingers from inside. Sub-period IV.

Pl. XXV A

1 and 2. Broken lower half of a female figure standing on pedestal. The right leg is slightly bent. Treatment of the buttocks, thighs and the legs is artistic. The girdle consists of cylindrical beads. The left hand rests along the body. There are two bangles on each wrist.

The figurine is important as it clearly shows the use of double mould. The back (No. 2) and front (No. 1) of the body were produced from two separate moulds finally joined together by hand. Joints are inaccurate. Finally the pedestal was prepared by hand and luted to the figure.

Dull-red clay; traces of lime-wash. Sub-period III.

Pl. XXV B

1. *Yaksha*. The background against which this male figurine is set is decorated by a few rosaces. It is shown standing with the right leg slightly bent, the left hand resting below the waist, and the right hand holding a pipe or lute. The figure has two wings decorated with stamped designs. The turban has a very prominent protuberance on the right and is decorated with a chain of pearls. The ornaments consist of pendant and circular button ear-rings, torque, garland, necklace, beaded girdle, and bangles on each wrist. The scarf is shown suspended from both the shoulders. The loin-cloth has three prominent knots, from the middle one of which is suspended a piece of cloth with a knot at the end and fine tassels. Sex is prominently indicated. Face and body are well-modelled.

Produced from a single mould, with back and sides pared after removal from the mould; the hole at the top indicates that the figurines were suspended on wall. Red surface with bright red slip. Sub-period IV, when winged female figurines³ also were produced at Kauśāmbī.

2. Female figurine. The background against which it is set is decorated with pointed rosaces. The top portion is decorated by a semi-circle of dots. The face is oval, the lips, the eyes, the nose and

¹ For an identical specimen cf. S.C. Kala, *Terracotta Figurines from Kauśāmbī*, (Allahabad, 1950), pl. XV A.

² For probable identification and significance cf. Rai Krishna Das, *Vāsavadattā-kā-Thikarā*, *Hindustani*, 8 (1938), p. 17.

³ For winged figurines cf. Coomarswamy, *op. cit.*, fig. 25; *An. Rep. Arch. Surv. India* 1913-14, pl. XLVI *Ibid.*, 1935-36, pl. XXII.

the hair on the forehead are prominently shown. The chin is round and the whole face is comparatively bony. The most characteristic feature is the crown in which are pierced nine leafy branches of some flowers. The crown is decorated with two rows of stamped six-pointed rosaces. The ornaments comprise ear-ring with fine tassels, torque, necklace of beads, double-stringed girdle, from which are suspended four strings of pearls, and double bangles on the wrist. The navel is indicated by a small dot. The figurine holds in the left hand a lotus-stalk which rests against the left breast. The figurine is possibly a representation of the *vr̥ksha-devatā* which figures prominently in ancient literature. The floral crown has parallels from Mathurā.

Single mould : red clay with bright red paint. Sub-period III.

PL. XXVI A

Fragmentary male figurine with a protruding belly. The right hand, holding some indistinct object, is flexed to rest against the chest. There are traces of a necklace around the neck. The navel is indicated by slight depression. The loin-cloth around the waist is held with the left hand. The sex is prominently indicated.

Single mould : red ochre paint applied over terracotta surface. Sub-period B.

PL. XXVI B

1. Female figurine. Hair, indicated by incised lines, is tied behind in a knot decorated with pearl strings, and is arranged on the forehead with the help of a string in a trapezoid fashion. The trapezoid encircles some ornaments on the forehead. Eye-brows, eyes, and eye-balls are all prominently indicated. The nose is long and flat. Cheeks gain prominence on account of depression on both sides near the nose. The figurine is heavily bedecked with ornaments, which comprise triple torque round the neck, double armlets, four bangles on each wrist, ear-pendants and a flower-stamped girdle round the waist. The folds of *dhōti* are strongly indicated. She has prominent breasts and holds a flower, possibly lotus in the left hand.

In faecal features and general style, this figurine has a marked resemblance with the '*naṭi* of Pāṭali-putra'.¹ In the treatment of the *dhōti* and the pelvic region it has affinities with the female figurines of the *mithuna* group from Ahichchhatra². The complete identity between this figure and the one from Patna bespeaks standardization. It is not improbable that the type, with a lotus in the hand, may have a religious connotation. This interpretation finds support from a specimen recently acquired by Shri Jineswar Das from Kauśāmbī, wherein the figurine is set against the wall of some enclosure.

Single mould : bright red slip. Sub-period III

2. Mother and child. The rendering of the woman in this plaque is fairly sophisticated. She holds the child in her left arm. The left leg of the child is extended against the belly of the mother and reaches her right thigh. The left arm of the child touches the left breast of the mother. The characteristic features of the figurine representing mother are the roundness of form, tending to be sculptural. The hands, breasts, thighs etc. are shown as if in the round. The breasts are heavy as in the early sculptures at Mathurā. The woman has a flowing lower garment divided in the centre and rolled back in folds at the sides. The ornaments comprise a torque of barrel-shaped beads and a beaded girdle. The ear-ring, of which there are only traces, was round in form and was suspended from the ear like a pendant.

¹ A. Banerji-Sastri, *Ind. Hist. Quart.* IX (1923), pp. 154-56

² Agrawala, *op. cit.* pl. XXXII, 12 and 14; cf. S.C. Kola, *op. cit.* pl. XV-A

Single flat mould : the sides pared by some sharp instrument : bright red ochre slip applied over terracotta red body. Sub-period IV¹

3. Female figurine, possibly a dancer. The right leg is slightly bent with the whole figurine leaning to the right. The dancer is standing with arms akimbo. The folds of the *dhōti*, the ends of which are tied behind, are shown prominently. The ornament consists of a torque, a necklace and bangles.

Single mould : red ochre paint applied over terracotta red body. Sub-period IV.

Pl. XXVII A

1. Male-head. It shows traces of a turban with knot above the left temple, prominent eyes along with oval eye-sockets, brows and balls outlined by incised lines. The nose, though prominent, is flat and the thick lips show deep cuts at either end of the mouth. The tongue is seen between the lips. The ears are indicated by flaps. The tenon below the chin is broken.

Hand-made. bright red slip. Sub-period V.

2. Male head. It shows thick lips, flat nose and round chin. Eye-sockets and pupils seem to have been worked out by adding more clay.

Technique same as in the preceding example. Sub-period V.

3. Female head. It shows a broad flat nose with prominent nostrils. Eye-sockets are separated from the forehead and the cheeks by deep grooves. Eye-balls are prominently worked out. Cheeks are full and fleshy. Chin is not prominent. The thick lips show deep cuts at either end of the mouth. Ears are rendered very faithfully. The characteristic feature of the figurine is the arrangement of the hair which is parted in the middle and is arranged in a number of braids all tied behind in a conspicuous knot. The hair on the forehead is decorated by a plait with dog-tooth design and a round-shaped ornament in a fashion in vogue in Marwar even now.

The head in its general treatment and more particularly in the arrangement of hair shows vague resemblance to the Śiva head of the Śiva and Parvatī image from Kausāmbī, now in the Indian Museum, Calcutta, dated in the 139th year of the reign of Mahārāja Bhīmavarman.²

Hand-made. Sub-period V. According to the scheme of chronology adopted here it falls within A. D. 25 to A. D. 100. The coroplast seems to have anticipated the sculptor's model in stone.

4. Male head. It shows a smiling face with a flat thick nose, prominent nostrils, full and fleshy cheeks, round chin and thick lips with deep cuts at either end of the mouth. The treatment of the eyes is similar to that obtained in the preceding examples. It seems to have a pointed cap. Necklace is indicated by incised lines below the chin and the ears by triangular incision and a central hole.

Hand-made. Sub-period VI

5. Male head. Śiva with three eyes. The delineation of the eyes, nose, mouth, lips and ears is similar to that obtained in the preceding examples on the plate. The hair is arranged in braids and tied behind with a fourfold ribbon in a prominent knot.

Hand-made. Stratigraphy is uncertain, may belong to Sub-period VII or VIII.

Pl. XXVIII

Sakaṭa (*ratha*), carrying a party of merry-makers. The body of the *ratha* simulates a wooden prototype. Its bottom is slightly concave and two side-walls are also concave with the top flaring out. Its interior is furnished with cushions. On the lower portion of the side-walls are carved ropes above and a line of rosaces below, the two enclosed within grooved lines. The two frames are attached at the

¹ Cf. Agrawal 'Mathura Terracottas', *Jour. U.P. Hist. Soc.* IX, pt. II, (July 1936), pl. XIII, 45., Gordon, *Jour. Ind. Soc. Oriental Art*, IX (1943), pl. XII, 1.

² Cunningham, *Arch. Surv. Ind. Rep.* X p.3; R.D. Banerji, 'Some Sculptures from Kosam', *An. Rep. Arch. Surv. Ind.* 1913-14, pl. LXX b.

bottom. There are two holes one transverse for the axle and the other longitudinal for the forward pole.

Inside the *ratha* is seated a party of four men and two women, all in a spirit of complete abandon, with two men and one woman on each side. In the centre is seen a dish containing food including fruits and a *mṛidaṅga* or more probably a jar covered with a lid. The lid is decorated with six pointed rosaces. On each side the woman is sitting in the centre. On the right, the woman and the man sitting towards the end of the *ratha* rapturously kiss each other. The man has a turban on his head with a protuberance on the left. He wears a torque, ear-ornaments and possibly a necklace. With his left hand he has lifted something from the dish. The hair of the woman is arranged in a number of plaits some falling down against her breasts which are very full and prominent. The woman wears a button ear-ring, the details of other ornaments being obscured. She has her hand on the *mṛidaṅga*-like object. The third one in that row is a male figure with turban and button ear-rings. He has some eatables in his right hand and with his left presses against the woman's hair.

On the left side again the woman is in the centre. The man towards the end of the *ratha* is playing on a lute resting against his elbow. He has some eatables in his right hand. His left hand rests on the head-dress of the woman who is lost in abandon. The woman is possibly singing. She has her left hand on her head in a typically dancing posture. Her hair is arranged in plaits: she has a button ear-ring and a necklace of pearl strings. The other male figure sitting in front has his hand on the breast of the female. The whole theme is extremely erotic and Bacchanalian.

The *śakaṭa* was produced from various moulds: the main upper part containing the figurines inside the *śakaṭa*, the sides and the navel were moulded separately, all these parts joined together before firing; the wheels were separately produced and added later to the *śakaṭa*.

On account of external disturbances, stratigraphy is extremely uncertain, but the type cannot be later than Sub-period V. It may therefore be either Sub-period IV or III. The type seems to have been very popular. A number of specimens are also available from surface collection.

Pl. XXIX A

1. Back portion of an elephant with rider. A double rope intended to hold the seat squarely passes below the tail of the elephant. The rope (or chains) has two prominent circular knobs on two sides. The seat is elaborately decorated. The rider is a male figure, sitting stiff. His head is missing. His right hand rests against the navel.

From a double mould: red slip applied on terracotta red original surface. Sub-period VII.

2. Waist of a female figurine. She is shown catching the folds of her *sāri*, which is very prominently indicated. A double stringed chain of pearls is also seen possibly suspended from neck. On her left hand perches a long-beaked parrot and on the wrist are a set of four bangles.

Mould-made. Sub-period VII.

3. Waist of a female figurine. The right hand is hanging on the sides. The lower half of the left hand is raised up. The figurine is clothed but the pelvic region and the navel are prominently indicated.

Single-mould, back pared. Sub-period VI.

4. Lower half of a female figurine. The left leg is slightly flexed. It either crosses the right leg or rests against it. The waist is decorated with a four-stringed girdle from the lower strings of which descend a number of beaded tassels. The lower end of the necklace is also visible. The figure stands in a characteristic pose and has marked affinity with a similar figurine recovered from Vaiśālī and Lauriyā Nandangarh.¹

Single-mould, back pared: stratigraphy is uncertain but may belong to Sub-period VI.

¹ *An. Rep. Arch. Surv. Ind.* 1913-14 pl. XLIII. *Ibid.* 1935-36, pl. XXII.

Pl. XXIX B

1. Female figurine. It has an oval face and prominent eyes rendered by working up the pupils from the original clay surface with some sharp instrument. It has a broad prominent nose with a low ridge, a small mouth, and a prominent forehead. Goat-like ears which have been prepared separately are shown by barrel-shaped incisions. Hair is arranged in coil with double holes. The arms are extended at the sides and the thighs form a S like curve with the chest.

Hand-made. Sub-period IV.

2. Female head closely similar to No. 1 above. The features of the face in this case are better worked out. The hair is parted in the middle and is rolled back to form a coil with a hole in the centre. A prominent feature of the hair dressing is an applied band. There are traces of two horns still in a rudimentary stage.

Hand-made. Sub-period V.

3. It is an unfinished figurine of the same class as Nos. 1 and 2 above. The head including the face is only a ball added to the stump which was to be converted into the body.

Technique same as Nos. 1 and 2 above. Sub-period V.

B ŚAKA-PARTHIAN FIGURINES*Pl. XXX A*

1. Female figurine. She wears a long-sleeved chiton which reaches little below the knees. Peplos is also indicated by deep parallel incisions above the breasts. It is pulled up over the head, completely covers the ears and leaves the button ear-ring free. The line of the peplos on the back below the neck is very clearly defined. The hair is arranged with two strings in a conical knot on the back of the head. The figurine is seated on a chair or stool and rests probably against the wall of a votive tank or shrine of the mother-goddess for which it was meant. She is either a mother-goddess herself or her devotee. The hands are crudely made and were attached to the body before firing. The breasts are heavy and the woman seems to hold them with her hands. Eyes are represented by circular shallow depressions. Nose is small, while the mouth is indicated by a short slit. Parts of the hand and feet are missing.

Hand-made, various parts of the body prepared separately and joined together before firing. It is prepared from coarse gritty clay, showing husk as dégraisant. It has rough fabric showing bright-red paint. Sub-period V.

2. Female figurine, nude. The neck and lower part of the body are missing. It has heavy breasts, of which the nipples are shown by circular perforations in the centre. Belly is worked in realistic fashion and there is a large circular depression for the navel. Hands rest on the sides of the breasts. The figurine wears a thick applique torque round the neck punched at regular intervals and is shown seated, resting probably against the walls of the shrine of the mother-goddess. She is either a mother-goddess herself or her devotee.

Hand-made, clay is coarse and gritty with plentiful admixture of husk. The figurine has rough texture showing bright-red paint over terracotta red surface. Sub-period VI.

Pl. XXX B

1. Female drummer. She wears a full-sleeved tunic and has a peaked cap which completely conceals the ears. Only the button ear-pendants are left uncovered. There is a thick necklace with parallel slanting grooves around the neck. She has a longish chinless face, thick lips, closely set against each other, and a broad but long nose. The eyes are elliptical, the eyebrows, the pupil, the eye-ball and the eye-lids being clearly indicated. She holds the drum in the left arm-pit and with the stick in the right

hand strikes against the drum. From the inclination of the neck it is clear that the music is still on. The figure was set against the wall of the shrine of the mother-goddess as is suggested by the impression left on the back.

Hand-made; parts prepared separately and added together before firing; paste is coarse, bright-red paint is applied over terracotta-red surface. Sub-period V.

A similar type was also recovered from the 1937-38 excavation.

2. Draped male dancer. Both hands are missing. Rhythmic movement of the body is indicated by the modelling of the back, particularly the shoulders. The figurine is finished at the hips.

Hand-made; parts prepared separately and joined together before firing. Coarse and rough paste, bright-red paint. Sub-period V.¹

3. Draped male dancer. The figurine is finished off at the hip-end. Left arm rests just above the waist, right hand is placed akimbo. The figurine wears full-sleeved tunic with open bordered V-shaped neck-line. The modelling of the back shows the rhythmic movement of the body.

Hand-made. The technique similar to that of nos. 1 and 2 above. Paste contains seeds, husks, etc.; bright-red ochre-slip. Sub-period V.²

4. Draped dwarf flutist. He sits on a chair with the feet resting on a foot-stool, which is decorated by an incised rope-pattern. The figurine plays on a double flute which is inserted in his mouth. The strain of blowing on the flute has created depressions in his cheeks. The whole appearance is extremely grotesque and comical. The figurine has a big belly. The phallus is exposed. The facial features, the formation of the nose, the moustache, the mouth, the eyes, the forehead and the wrinkles in the forehead and also the head-dress are almost paralleled by the grotesque figures of Selencia.³ The type has also a close resemblance with the Kuvera of Indian art.

Hand-Made. Sub-Period V

Pl. XXXI

1. Female head. The hair is arranged over the forehead like a crown. Ten grooved parallel lines render strands of hair. A circular button-like object with a number of dots is pinned just in the centre of the crown over the forehead. Rendering of facial features is not very neat. Eyes are indicated by two circular hollows. The figurine has prominent cheek bones, sunken cheeks, a flat long nose, short lips and a prominent chin. All these features create a smiling but rather uncanny appearance. It has fairly big ears with round hollow ornaments. The long, thick cylindrical neck reminds one of Greek female terracottas from Olynthus.⁴

Hand-made. Sub-period V.

2. Draped female figurine. The head, the feet and part of the legs are missing. It is shown in a reclining position with the left elbow resting on a cushion. Folds of the cloth are prominently indicated. She wears a close short-sleeved tunic with a bordered V-shaped neckline decorated above the breasts with slanting but parallel grooves probably representing folds. The hands are finished at the elbow.

Technique is similar to that of No. 1.

Hand-made; coarse clay, burnt black full of husk and other organic matter and also sand particles; red-ochre paint after firing. Sub-period V.

3. Female figurine, nude. The head, arms and the lower part of the body are all missing. Reclining towards proper left; round large breast more prominent by the reclining posture.

¹ Cf. Van Ingen, *op. cit.*, pl. XLII. 302, nos. 604g, 304, 607 etc

² *Ibid.*, pl. XLII, 308, no. 612.

³ *Ibid.*, pl. XXV, 175, no. 364.

⁴ Robinson D.M., *Excavations at Olynthus* Oxford University Press, 1931 *The Terracottas pt. in, pls.* 48-50

Hand-made; bright-red paint applied over terracotta-red coarse surface. Sub-period V.

4. Female head. It shows a typically Greek double knobbed head-dress, hair parted in the middle by a string of beads and arranged in two knobs on the sides. Grooved parallel lines render strands of hair. A twelve pointed circular boss in the centre of the forehead to some extent minimizes the otherwise prominent forehead. Pupils are indicated by voids. The treatment of the cheek-bone, the cheeks, the lips, the chin and the ear connect this figurine with that on pl. XXVI B. 1. It has round button ear-rings. The head has a tenon which was possibly fixed on a hollow cylindrical body. Judging from the child-like object in the lap (cf. pl. XXXIX B. 2). of similar figurines, the present figurine represents the mother-goddess. The only other figurine with a two knobbed head-dress so far reported in India and Pakistan comes from Sar Dheri.¹ The head-dress, according to Gordon, is particularly distinctive feature of Selenic female figures. Van Ingen also contributes to this view.²

Hand-made; parts were added together before firing. Even the head was affixed to the body before firing. Coarse gritty clay mixed with plenty of husk and organic material. The figurine was dressed in red ochre. Earlier part of Sub-period V.

5. Female figurine, draped. Reclining³ towards the proper left. It had possibly a conical head-dress. It is clothed in skin-tight garment with a V-shaped neck-line between the breasts. In view of the reclining posture the left breast is shown a little higher than the right one.

Hand-made; red paint applied over dull terracotta red-surface. Sub-period V.

Pl. XXXII A

1. Male head. Traces exist of a pointed peaked cap. Incised lines indicate locks of hair around forehead which is broad and prominent. It has roughly shaped eyes. The pupils are shown by mere hollows. The nose and nostrils are indicated by needle-holes. Fleshy cheeks are made prominent by an almost complete absence of the lips. Mouth is shown by a mere depression. The whole face has an oval appearance.

Hand-made; made from coarse clay dressed in red ochre. Sub-period V.

2. Male head. It has a conical peaked cap, semi-circular at the bottom and pointed at the top. Deep grooves, formed by alternating ridged bands, divide the cap vertically. The base of the cap is decorated with a string of circular beads shown by deep incisions. The figurine has prominent forehead with slight depression in the middle and at the top. Eyes are worked out in original paste itself. The pupils are indicated by circular cavities. It has broad but very conspicuous nose and ears with vent-holes.

Hand-made; made of very coarse gritty clay with plenty of husk and seeds and shows indifferent firing; dressed with dull-red colour applied over coarse surface. Sub-period V.

3. Male figurine, draped. It has a long but indistinct nose, round eyes punched in the face, forehead covered with a cap and a prominent chin. Mouth is shown simply by a slit or depression. The cloak is fastened towards the left side of the neck. The figure is finished at the hip end.

Hand-made; coarse and gritty with clear traces of the use of red ochre, traces of tips of fingers on the back and the head. Sub-period V.

4. Male head. It is remarkable alike for expression, dress and decoration. The prominent features are a dish-shaped cap, the sides of which are divided after a geometrical pattern simulating a full blown flower. Locks of hair descend down the forehead. The expression of the face calls for particular

¹ Gordon, *op. cit.* (1943), p. 163.

² Van Ingen, *op. cit.* p. 36.

³ For a discussion on the meaning and purpose of the reclining female figurines see Van Ingen, *op. cit.* and for analogous examples from Uru Warka Nippur and Babylon, see Van Buren, E.D. *Clay figurines of Babylonia and Assyria* (Yale Oriental series, Researches, Vol. XVI; New Haven, 1930).

attention. The mouth is open, as if with joy. The upper lip is comparatively short. The lower lip hangs like an arch under the weight of the protruding tongue. The cheeks are fleshy with prominently lined depression around the lower end of the nose. The treatment of the eyes is same as in nos. 1-3 above. The eyebrows are prominently displayed by ridges.

Hand-made. Sub-period V

5. Male head. It is a unique portrait of an old or sick person. The prominent features are the toothless gaping mouth, a wrinkled face, deeply furrowed forehead, large eyes, wide open and vacant as if light is fading out of them. The figurine has fan-shaped ears. The front portion of the head is bald but the hair is arranged in braids behind the back. The hair falls on the shoulder behind the neck. The treatment of the hair is applique. The expression is one of worry and complete exhaustion on account of age or sickness.

Hand-made. Sub-period V.¹

Pl. XXXII B

1. Male rider. He sits erect, as indicated by the trunk of the body which is perpendicular to the horse now detached and missing. Legs are shown apart. The modelling of the thighs showing muscular strain in the attempt to sit astride makes it certain that the figure represents a rider. The navel is shown by a dot in relief. The entire frame leans to the right.

Hand-made: coarse clay burnt to dull terracotta-red, dressed finally probably in red colour. Sub-period V.

2. Male rider. Modelling is extremely crude. The figurine has a slab-like body with pinched out triangles for arms and feet. An attempt has been made to show the legs apart in order to indicate that the figurine represents a rider. The nose is a pinched up ridge in which a slight depression represents the mouth. Finger-tips with which the nose and mouth are pressed out are clearly visible. The head is cylindrical. The type is common.

Hand-made. Common in Sub-periods V to VII.

3. Male rider. It is almost identical with no. 2 above except that there is slight variation particularly in the modelling of the mouth, the nose and the abdomen.

Both nos. 2 and 3 are assigned very tentatively to the rider group. This type was produced in very large numbers. The possibility of their being toys modelled by children is ruled out by the fact that they conform to a pre-determined standard as is clear from their identical modelling and also by their being fired. If they were made by children no one would take the trouble of firing them. In fact they seem to have served a votive purpose. This is brought out clearly by pl. XXXIII B. 2. where a seated mother-goddess is shown with such a child in the lap.

Hand-made. The type is fairly common in Sub-periods V to VIII.

4. Lower portion of the trunk and legs of a male rider. This figurine is a sure specimen of the horse-rider type. The trunk is straight as if the rider was sitting erect as in no. 1 above. The legs, of which one is fully available, are tapering and shown wide apart. The back is still more realistically rendered. The buttocks show muscular strain on account of riding. There is a slight depression where the backbone ends and the two buttocks are shown apart slightly bulging out on account of pressure.

Hand-made. Sub-period VI

5 and 6. Front and back views of a male rider. It is another specimen of the rider type. The figurine is finished at the hip-end. The legs are short but shown apart. The arms are not differentiated. The rider wears a close-fitting tunic with bordered neck-line which is shown very clearly. It is apparent that the rider is sitting astride.

¹ Cf. *An. Rep. Arch. Surv. India.*, 1929-30, pl. XIV, 1. Cf. Perdrizet, P., *Les Terrae Cuites Grecques D' Egypte*: De la Collection Fouquet. Vol. II, pls. CVIII, CIX. (Nancy etc. 1921).

Hand-made. Sub-period VI.

Pl. XXXIII A

The figurine representing the mother-goddess, of the Śaka-Parthian group shows the restored type the head and body being separately illustrated (pl. XXXI, 4 and XXXIII B, 1)

Pl. XXXIII B

1. Mother-goddess. The body of the figurine illustrated above (pl. XXXIII A). The body and the head were recovered from the same pit. The figurine seems to be seated on a high stool. She is dressed in a belted tunic reaching the knees. The belt on the back is decorated with finger-tip patterns. Oblique incisions denote either a necklace or a himation. Modelling is extremely crude. Various parts of the figurine were prepared separately and joined before firing. The hands and the feet are undigitated. Fingers of the hands are shown by parallel incisions. Breasts are made separately and fixed later. The navel is shown by a prominent circular cavity.

Hand-made; clay extremely rough and texture disfigured by numerous voids. The figurine was finally dressed in red ochre. Earlier part of Sub-period V.

2. Mother-goddess. The technique is the same as in the preceding one. In this case she is shown suckling a nude baby, held in a reclining position on her lap.

Hand-made. Sub-period VII.

(C) VOTIVE TANKS OR SHRINES OF THE MOTHER-GODDESS

Fragments of a number of shrines of the mother-goddess or of votive tanks were recovered from Cuttings KS-I and KS-III. Though no single specimen is complete in all the details, the pieces put together permit a fairly accurate reconstruction of the whole type, the essential feature being (a) a square tank about 3 in. deep, (b) a seated figure inside, usually a drummer dressed in trousers and belted tunic reaching the knee, (c) lamps on the floor and walls of the tank and (d) birds perched on the walls. The walls of the tank and the seated figures are prepared separately and are joined to the base before firing. The range of the type being Sub-periods V and VIII.

Type C of this class from Taxila¹ offers a near parallel. There are, however, certain differences in the two. The specimens from Abichelhatrā, however, have almost identical details.²

Pl. XXXIV A

1. Resting Herakles (?). The body above the waist-line is missing. The left leg is slightly bent, apparently leaning against something (possibly a staff). The figurine is nude excepting a cloak in the left hand.

Single mould; a comparatively finer paste than other specimens of the period. Sub-period VI.³

2. Draped male figurine standing with legs apart. He wears a long tunic reaching the knees and also trousers.

Mould-made as no. 1 above, clear traces of the use of red wash. Sub-period VIII.⁴

3 and 4. Front and back views of a woman standing with left leg slightly bent. A big mantle covers her upto the navel above which the figurine is broken. The folds of the mantle are very artistically rendered. The mantle hangs freely from below the back and is tied probably by a belt.

Mould-made. Sub-period V.

¹ Marshall, *Taxila*, II, p. 464.

Agrawala, *op. cit.* (1948), p. 125.

Van Ingen, *op. cit.*, pls. XVIII-XIX.

Ibid., pl. XXIII, no. 159.

Pl. XXXIV B

Part of a shrine of the mother-goddess with oblong walled enclosure showing on one side a seated drummer, dressed in trousers and belted tunic reaching the knees. The drummer is striking with the right hand against the drum held under the left arm-pit. A lamp is placed in front of the seated figure at the bottom of the tank.

Sub-period V.

Pl. XXXV A

1-3. Drummers are shown seated against the walls of the shrine of the mother-goddess.
SURFACE.

Pl. XXXV B

1. Fragment of a shrine with the drummer resting against the wall.
2. Fragment of a shrine with a bird perched on the wall holding a lamp in its beak. This is an interesting and rather uncommon feature.

Pl. XXXVI A

1-3. The three figurines each represent a draped seated deity. The deity is dressed in a full-sleeved belted tunic. The belt can be seen clearly in No. 2. In all possibility the figurines represent a female deity but since the ends of the tunic on the chest overlap the breasts (in No. 1) the sex of the deity is not clearly revealed. Nos. 2 and 3, however, are certainly females as shown by the breasts. The hair is arranged in plaits with the help of strings decorated with rosaces and finally rolled back to form a coil. The head is partly covered with a cap the flaps of which cover the ears also. The figurines are highly bedecked with ear-rings, necklace and leg ornaments. The ear-ornaments, particularly in No. 2, appear to be conical in shape and internally concave. The necklaces in Nos. 1 and 3 are identical. A pendant of a complex design is suspended on the chest from a necklace of four strings. The necklace of No. 2 is highly sophisticated. It is made by piling, in relief, a number of rosaces.

The deity holds some object in the right hand. The object is either a child or a bird. As is clear from the perforation at the top of No. 1, the type was meant to be suspended against the wall of a room.

The features of the figurine are essentially Indian. The association of the child in the lap may indicate its probable affinities with the very popular Hārīti type, but the stitched dress, the seat and the method of sitting show clear Śaka-Parthian influences. It is not unlikely, therefore, that the figurines represent the Indian Hārīti modified under Śaka-Parthian influence.

No. 1 comes from Sub-period IV, No. 2 from Sub-period VI and No. 3 from Sub-period V

D KUṢĀṆA AND LATER TYPES

Pl. XXXVI B

1. Female figurine having large round ball-like eyes worked from original material, thick short lips made by hand and added later to a slit mouth, a flat chin rounded at the end, a large undigitated nose forming one continuous line with the eye-brows which in turn form two curves to fringe the forehead, fan-like oblong projection indicating ears, and hair arranged in a coil above the neck with an applique knot. There are three holes in the coil at the back for suspending the figurine. The neck is round and stumpy. The body is hollow and cylindrical. The breasts are large and round and the figurine has the crude arms of the Kuṣāṇa sculptures. From general appearance, it seems to represent some female deity whose exact identification is not possible in the present state of our knowledge.

Hand-made; the clay is coarse but is better lavigated than in the figurines of the Śaka-Parthian group and there is complete absence of husk and other organic material as degreasing. Sub-period VI.

2. Female figurine with an animal-like face, hooked-nose arising directly from the head, a short slit mouth, animal-like ears with deep incisions and hair arranged in a coil at the top of the head. The arms are extended at the sides with fleshy thighs below an attenuated waist. The legs, of which only one remains, are set apart. The figurine reclines slightly to the right.

Hand-made; dull greyish-red fabric without any organic matter in the paste. Sub-period V.

3. Female figurine with a goat-like face, a hooked nose, a slit mouth, large animal-like ears with incisions and hair arranged in a coil at the top of the back of the head with two holes for suspending the figure. The neck is stumpy with undigitated but large breasts.

Hand-made; dull terracotta red wash. Sub-periods VII-VIII.

4. Female figurine belonging to the type of Naigameś¹. Though it is not as good an example of this class as nos. 2, 3, 5 and 6, its modelling calls for particular attention. From a lump of clay first the head was pressed out. Pinching of the nose left two hollows that stand for eye-sockets. The crown of the head was similarly pressed out and so was the pointed cap, projected above the neck behind the head. A small mass which was left at the centre was by further pressing made into two breasts.

Hand-made. Sub-period V.

5. Female figurine with a goat-like face, a sharp hooked nose, a slit mouth, big animal-like ears with incision, a round stump, and a neck completely devoid of eyes and forehead. There are two circular holes in the knob at the top of the head. The hands are stretched on the sides. Breasts are undigitated and not as full as in the case of nos. 2 and 3.

Hand-made. Sub-period VII.

6. The figurine represents Naigameś¹. The modelling of the body is the same as in the nos. 2 and 5, but the horns, projected in this case laterally above the ears, are more clearly defined than in nos. 2 and 3.

Hand-made. Sub-period V.

Figurines of Pls. XXIX B and XXXVI B are closely allied. Figurines of Pl. XXIX B belong to an earlier stage when the type was not conventionalised, whereas those illustrated on pl. XXXVI B, are completely standardized. The human element is gradually subordinated to the animal element in composition.

The above analysis clearly shows the occurrence of Naigameś types from Sub-period IV to Sub-period VIII. These terracotta representations bear close affinities to the corresponding lithic types from Mathurā and are the product of a common Naigameś tradition which seems to have been very popular all over northern India from the middle of the first century B.C. onwards. Certain examples from Mathurā establish conclusively the association of this deity with children.

Pl. XXXVII A

1. Female figurine. The prominent features are a large beaked nose, thick protruding lips, round but thick chin, prominent cheek bones and a small forehead forming one continuous line with the nose. The face is long and extremely bony. The figurine wears ear-rings, a torque and a chain of beads to hold the coil of the hair. The conical cap leans towards the left. The breasts are well-shaped. The belly is protruding. Possibly the intention is to represent a pregnant woman. One hand rests on the belly.

Mould-made, with back finished with a sharp tool. Stratigraphy uncertain, probably Sub-period V or VI.

2. Female figurine. Head is missing. Draped in the style of late Kuṣāṇa and early Gupta sculptures. The figurine holds a child in her arms. The left hand of the child is stretched towards the

¹ Cf. Agrawala, *op. cit.* (1948), pp. 134 ff.

left breast. The legs are also thrown up against her breasts. There is, however, no suggestion of suckling. The figurine may represent the *aṅka-dhatri* type.

Mould-made. From the same horizon as no. 1 above.

3. Female figurine. The general features are the same as in nos. 1 and 2 above. The only difference is in the hair-style arranged in braids one of which is suspended on the side of the right ear.

Sub-period VII.

4. Female figurine. It resembles in every detail no. 1 above and offers the closest parallel to the figures on the Kuṣāṇa coins.

Pl. XXXVII B

1. Female figurine. Possibly a divinity. It has a squat face, lenticular eyes, a slit mouth, round protruding chin, and triangular ear with ear holes decorated with incised circles. The figurine wears a necklace resting on the breast and decorated by incised grooves and a decorated chain round the waist. The left hand is resting against the waist and the right against the right breast.

Hand-made. Sub-period V.

2. Female figurine. The ridge of the nose divides the face into double triangles. The eyes are protruding. The figurine wears what appears to be *kausia*. The breasts are much too heavy in comparison to the proportions of the body. The arms are stretched at the sides.

Hand-made. Sub-period VI-VII.

3. Male drummer. He wears a round topped cylindrical cap with upright incised lines, and has prominent cheek bones, round projecting chin and prominent ear-lobes. With his left arm he holds the drum which rests against his chest while with the right hand he plays with it.

Hand-made. Sub-period VI-VII.¹

4. Head with a turban stylistically arranged. The bands of the turban cross each other. The hair is arranged in a knob. In facial features the figurine resembles no. 1 above.

Hand-made. Sub-period VI.

5. Male musician. He has a pinched up nose, a slit mouth and small circular hollows for eye sockets. The hair is arranged in a knob at the top. The instrument the exact nature of which is not clear rests against the left shoulder. The musician holds it with the right hand.

Hand-made. Sub-period VI.

6. Female figurine. The head-dress is marked by upright incised grooves to indicate folds. It has goat-like eyes, a slit mouth and prominent ear-lobes.

Hand-made. Sub-period V.²

Pl. XXXVIII A

1. Female figurine. Anthropomorphic representation of a serpent deity. The hood takes the form of a fan shaped head-dress. The nose and the mouth are an undigitated pinched up mass. The arms are extended straight almost perpendicular to the body and are also undigitated. The breasts are small but clearly defined.

la represents the back view. The modelling of the neck and the hood give the figure a realistic serpent-like appearance.

Hand-made. Sub-period VI

Pl. XXXVIII B

Male head with goggle eyes, incised protruding eye balls, deep cylindrical hole for the pupils and incised line for the eye-brows meeting in a point above the bridge of the nose, which is long and massive.

¹ For identical types cf. V. S. Agrawala *op cit.* (1948), pl. XXXVII A 83-86

² *Ibid.*, Pl. LIV B. 222 to 228

The nostrils are shown by small pin holes. The mouth seems to have been cut with a blunted tool. The ears form an oblong projection with a vent-hole in the centre and a button ear-ring. The figurine wears a turban with a tail slightly inclined to the left. The folds of the turban are rendered by slanting incised lines.

Traces of a collar exist around the neck. The folds of the cloth are treated as in the case of the turban. Below the neck there is seen a tenon to be attached to a hollow cylindrical body.

Hand-made. Sub-period VI.

Pl. XXXIX A

Bust of a female figurine. It is hollow within. Head and lower part below the waist-line are missing. The right hand rests on the right thighs while the left is missing.

The figurine wears a necklace resting above the breasts which are worked out by pinching the clay from the original surface. The necklace is decorated with incised grooves. The figurine has an armlet on the right arm. The navel is clearly indicated.

Hand-made. Sub-period VII.

Pl. XXXIX B

1. Cap. It is the longest specimen and, though incomplete, measures $4\frac{1}{2}$ in. in length with a basal diameter of $2\frac{1}{4}$ in.

Sub-period V.

2. Cap. It is 4 in. in length and has a basal diameter of 3 in.

Sub-period VI.

3 and 4. They are broken in the middle, No. 3 from Sub-period V and no. 4 from Sub-period VIII.

5. Cap. It is the smallest in the collection and measures 2.5 in. in length with a basal diameter of 2 in.

Sub-period V.

Assumably the caps were prepared separately by hand and were fixed to the figurines before firing.

Pl. XL A

1. Fragment of an arm, modelled in an extremely crude manner. Ornaments on the arm are indicated by oblique parallel grooves.

Hand-made. Sub-period VI.

2. Fragment of an arm. The notable feature is the sophisticated armlet in which a highly decorated knob is set in the middle a complex of design held between two chains at both ends.

Hand-made. Sub-period VI.

3. Fragment of an arm clasping some musical instrument. Fingers are represented by many parallel grooves. The hand is decorated by two ornaments and a number of bangles.

Hand-made. Sub-period VI.

4. Fragment of an arm. In the hand is held a cup which is slightly bent.

Hand-made. Sub-period V.

5. Fragment of an arm (possibly right). In the hand is held a cup. On the wrist is worn an ornament.

Hand-made. Sub-period VIII.

6. Arm (bent). The only prominent feature is the ornament near the wrist.

Hand-made. Sub-period V.

Pl. XL B

1-6. Excavation yielded a large number of broken feet or portions of feet detached from the main body of the figurines. Six of these are reproduced here. All of these are crudely modelled and are invariably hand-made.

These were obtained from Sub-periods IV (no. 2), V (nos. 3-4), VII (no. 5) and VIII (nos. 1, 6).

Pl. XLI A

1. Fragment of a terracotta sword in sheath. It was presumably suspended on the right side of a rather large-sized figurine. The hilt is decorated with vertical grooves. The lower end of the hilt is represented by a prominent cordon. The sheath was decorated with horizontal grooves.

Hand-made. Sub-period VI.

2. Palm of a figurine holding a cup

Hand-made. Sub-period VII

2. ANIMAL FIGURINES

The coroplast of Kausāmbī paid as much attention to the representation of animals, birds and beasts as to the human figurines. All the animal figurines were made mostly by hand. Whereas the body was invariably modelled by hand there are instances where stamps were employed to shape the head or other limbs. In the case of ram-figurines (pl. XLI B, 1 and 3) the horns were first made by hand but later shaped by the use of stamps. The curls of the hair were also similarly produced. In the case of elephants (pl. XLII B, 1-2), the chains as also the richly decorated seat was produced by stamps. The manes of the horses were indicated by oblique incisions. The feathers and wings of the birds were similarly indicated. The only notable exception to this generalization is of toy carts or *śakatas* (pl. XLII A, 1 and 2) which seem to have been made by a mould.

There are certain types the secular character of which is apparent. The most remarkable of these are the horsemen (pl. XXXII B).

From the total collection of animal figurines, it is very difficult to classify the two main types, viz., the indigenous and the Śaka-Parthian. But it is not improbable that doves with out-stretched wings and birds on a pedestal with a ring round the neck may be ascribed to Śaka-Parthian influence.

The earliest animal figurines recovered from the excavation are those of the elephants.

The horse was another favourite theme. The earliest figurines go back to Sub-period I.A. and survive upto Sub-period VII (pl. XLIII A).

Amongst the cattle only the humped bull is represented. As many as five bull figurines, four of which were humped, were recovered from the excavation (pl. XLIII B, 3-6).

There is not much variety in these bull-figurines. The bull invariably has a prominent hump and short upright horns. Only in one case has an attempt been made to render the common mood. It has been shown as if preparing for a fight

against another one (pl. XLIII B, 3). One of the figurines shows holes in the thighs indicating that a separately-made head was intended to be fixed (pl. XLIII A, 5). In view of the universal belief in the sanctity of the cow, as revealed by the inscriptions of the early centuries of the Christian era, the complete absence of the cow from the terracotta figurines is rather surprising. Similarly no specimen of buffalo was found.

The ram along with the dog was the most favourite theme of the Kauśāmbī coroplast. Whereas all the other animals, including the dog, were rendered more or less in a realistic fashion, the rendering of the ram was peculiar to itself. Only the head and the front portion of the body were shown, with the front legs flexed resting against the chest. Such a rendering became necessary because the ram was intended as a toy-cart. Another hole was made in the neck to provide for a string. This ram toy-cart remained in vogue from Sub-period III to Sub-period VIII, though the bulk of the figurines are concentrated in the Sub-period III. Though the general features remain the same throughout, there is a progressive deterioration in the size as well as in the technique of manufacture and also in the general finish from Sub-period III to Sub-period VIII. The figurines of the Sub-periods V-VIII lack the vitality and the realistic touch of the early models. The ram is shown with two prominent horns coiled round the temples. The bushy hair is rendered by small but numerous circular dots that cover the entire body of the ram. The forehead and the neck seem to be bedecked with flowers. It is interesting to note that this animal still retains its popularity as a pet with the people of Kauśāmbī. It is not an uncommon sight to watch the villager walking to the field followed by his constant companion, the ram, full of affection for the master, bleating and running close behind his heels.

Dogs, in various breeds, were also not uncommon. About a dozen such examples were obtained (pl. XLIV A.). They were either used as toys or toy-carts.

Amongst other animals represented, mention may be made of the rhinoceros (pl. XLIV B. 2), the *nīlgāy* (pl. XLIV B, 3), the deer (pl. XLIII B, 1 and 2), the camel, the wild boar (pl. XLIV B, 4) and the fox. Of these the rhinoceros calls for particular attention. Its very realistic modelling indicates that the potter was fully familiar with this animal. The climate and the topography of the region, therefore, were such as to attract this animal to this region. At the present time, this area is more or less arid. It is comprehensible that in the third century B.C. much of this area was covered by forests and received a larger amount of rainfall than today. This inference is not at all unpalatable in view of the references to jungles in the vicinity of Kauśāmbī in the time of Buddha. Even during the times of the Chinese pilgrims, Fa-Hien (fifth century A.D.) and Hsien Tsang (seventh century A.D.), the whole area was infested with dense forest.

Amongst animals of the water, mention may be made of the tortoise, the frog and the fish (pl. XLV A, 2-4).

Birds did not receive the same amount of attention as animals and human beings. Nowteworthy amongst the birds represented are the peacock, the dove, the owl, the woodpecker and the crane (pl. XLV B).

Pl. XLI B

1. Ram. Sub-period VII.
2. Elephant. PSV. Material similar to the Northern Black Polished Ware.
3. Ram. Sub-period IV.
4. Camel. The rendering is not a happy one. The legs are much too small in proportion to the body. Since the animal is shown in a sitting posture, the characteristic features are not clearly seen.

Hand-made Sub-period VII

Pl. XLII A

1. Front portion of a cart. Two bullocks which are garlanded round the necks are shown under a yoke. Surface.
2. Elephant. A chain in the right hind leg probably binds it to a pole and the elephant, in rage, is trying to release himself from the chain. The strain of the struggle is very successfully shown by the coroplast. Alternatively the elephant, may be performing an acrobatic feat, balancing himself on a narrow pedestal, for the amusement of the people

Mould-made. Sub-period V.

The elephant figurines range in date from Prestructural V to Sub-period V (early fourth century B.C. to the middle of the first century A.D.).

Pl. XLII B

1. Elephant. This is the best preserved of all the elephant figurines. The head and the trunk in this case are considerably larger in proportion to the body. No attempt has been made to render the seat on the back of the elephant. Decoration consists of a band tied round the neck. Another band is seen on the forehead. This was decorated by punched circles enclosing dots. The two ends show tassels. The eye has been rendered by a rhomboid punch, enclosing a dot. Sub-period I.B.

2. Elephant. The treatment particularly the decoration of the seat on the back of the elephant is very elaborate. The seat had a covering on which designs and patterns were represented by punched circles, showing dots in each quadrant. The trunk of the elephant is disproportionately large as compared to the head and the body and is also decorated with punched circles. Around the neck is a punched band representing a garland. The punched wheels on the band are similar to those that occur on the coins of the uninscribed east series or lanky bull series. Sub-period I.B.

Pl. XLIII A

1. Horse. Rendering of this figurine is comparatively realistic though the coroplast has failed to do justice to mouth, which is disproportionately small. Decorations consist of deep incised lines, horizontal on the back and oblique on the thighs, tail and the chest

Hand-made; grey ware. Sub-period I.A.

2. Fragment of a horse showing part of the back. Saddle has been indicated by horizontal grooves and the tail by oblique grooves.

Hand-made. Dull terracotta red-colour burnt black due to indifferent firing. Shows a bright-red paint. Sub-period VII.

3. Fragment of a horse. The rendering of the figurine is not realistic. The noteworthy feature is the decoration, consisting of incised lines both horizontal and oblique interspersed with small punched circles. The motif is very important as it also occurs on other animal figurines besides the horse. Figurines with this pattern have been reported from other sites like Hastinapura and Vaisāṇī.

Hand-made. Sub-period I.A

4. Fragment of a horse. The modelling in this case is much more realistic than in the preceding specimen. The conception underlying the whole treatment is entirely different. The mane, the mouth and the legs are missing and across the back is a roughly-made saddle rendered by two applique-bands of clay with parallel grooves.

Hand-made; Grey core, dull-red surface, with red polish. Sub-period VI.

5. Body of a bull with perforated thighs for receiving the detached head. Sub-period VIII

6. Mane and mouth of a horse. The mane is formed by pinching the clay while the hair is indicated by incised lines. Two deep holes represent the ears. The eyes are worked out of the original clay.

Hand-made. Fabric same as no. 4 above. Sub-period VII.

Pl. XLIII B

1. Deer. The mouth is undigitated. The colour is dark grey. Sub-period I.A.

2. Deer. The horns are bent and are decorated with incised lines. The eyes are represented by punched circles. These decorations also appear on the body. Sub-period I.B

3. Humped bull shown as preparing for a fight. The figurine is crude.

Hand-made. Firing is indifferent. Sub-period III.

4. Humped bull with short upright horns and undigitated mouth. Hand-made. Sub-period V.

5. A tiny humped bull. Limbs with the exception of the hump and the horn are undigitated. Hand-made. Sub-period V.

Pl. XLIV A

1. Dog. It is a crude representation but the rendering is naturalistic.

Hand-made. Sub-period VII.

2. Dog. The rendering of the forehead, temples, eyes, ears, back and the hind shoulders is extremely artistic. Eyes have been produced by punching. Ears have been produced by pressing the original clay surface with the tips of the finger. A groove running from the head to the tail indicates the backbone.

Hand-made. Sub-period VII.

3. Dog toy-cart with perforations. The ears, the mouth, the nose, the eyes and other parts of the face and the body are unletined.

Hand-made. Sub-period VII

4. Dog (?). The rendering of the face, ears, eyes, etc. is unrealistic and the animal is shown seated on his haunches and with forelegs slightly outstretched, a pose in which dogs generally sit.

Hand-made. Sub-period V

5. Dog with undigitated face, mouth, ears, nose, etc. Hand-made. Crudely-modelled; Sub-period VIII.

6. Dog toy-cart with perforations for axle in the chest. The animal is possibly sitting on its haunch. The rendering is extremely crude.

Hand-made. Sub-period VII.

7. Dog with a small face and flapping ears.

Hand-made. Crude representation. Sub-period VIII.

8. An extremely doubtful representation of a dog with stout long face. The mouth is shown in a jacket. The cloth or leather jacket is decorated with cross-like designs.

Hand-made. Sub-period V.

9. A doubtful representation of a dog. The head is a little too prominent.

Hand-made. Sub-period VI

Pl. XLIV B

1. Tiger. The animal is represented as quite powerful and massive with a round and heavy head.
Hand-made. Sub-period III.
2. Rhinoceros. It is the best animal figurine in the entire collection. The rendering of the horn, the mouth, the eyes, the nose and the head deserves particular attention
Hand-made. Has deep red ochre paint. Sub-period I.B.
3. *N'lgay*. This is a rather worn out specimen but a comparison with other similar figurines in the surface-collection fully confirms the identification.
Hand-made. Sub-period VII.
4. Boar. It has a prominent stout and strong tusks
Hand-made. Sub-period VIII.
5. *N'lgay*. Same features as those of no. 3 above.
Hand-made. Sub-period VIII.
6. Boar. A small and poor specimen.
Hand-made. Sub-period IV.
7. Porcupine. The identification is doubtful.
Hand-made. Sub-period VI.

Pl. XLV A

1. Snake. It is a standardised and conventional representation. The body is decorated with oblique grooves and punched circles. Its wide distribution and standardization are indicative of its votive character.
2. Tortoise. It is a flat piece rounded at the back. The sides have parallel grooves. The mouth is formed by pinching the clay and is indicated by a slit.
Sub-period VIII.
3. Frog. The rendering of the neck with deep grooves, the ears, the mouth and the collar is very realistic.
Sub-period VIII.
4. Fish. It is very elaborately rendered. The scales are shown by oblique grooves on the body rising from the central line indicated by indentations. The eyes are indicated by two holes on the sides.
Sub-period VI

Pl. XLV B

1. Identity not certain. It may perhaps be a crane
Sub-period V.
2. Peacock. Its wings are folded. The figure is not realistic and was perhaps used as a toy-cart.
Sub-period VI.
3. Identity not certain. It may perhaps be an owl
Sub-period VI.
4. Peacock. It is shown with wings outstretched, though the wings, the feet and the tail are undigitated.
Sub-period VIII.

5. Dove. It is shown with wings outstretched as if ready to fly. The beak is undigitated but the eyes are shown by two pin-holes. The bird is perched on the wall of possibly a tank. It is to be noted that the bird (no. 7 below) is also shown as sitting on the wall of the shrine of the mother-Goddess or the Votive tank but with folded wings.

Sub-period VI.

6. Woodpecker. Its treatment is much more elaborate. The tuft of the hair, and the wings have been rendered in a more or less realistic fashion.

Sub-period V.

7. Dove. Same features as those of no. 5 above.

Sub-period VI.

8. Woodpecker. It is plainly modelled.

Sub-period VI.

3. MISCELLANEOUS OBJECTS

Toy-carts were extremely popular in all the Sub-periods. Many of the models are rough and crude but some are extremely sophisticated. Very often animals were used as toy-carts. For the śakaṭa, the coroplast tried to render the models with which he was familiar. They fall into two groups. The first and comparatively simpler type is represented on pl. XLVI. In this case the back was open and the front of the cart was probably closed. It is also not unlikely that the front was also open and, in an effort to show the pair of bullocks yoked to the cart, the coroplast deviated from the real model and introduced the pair of bullocks in front. Such carts also had two highly-decorated side-planks with semi-circular ends. The second group is represented in pls. XXVIII A and B. According to the available evidence furnished by carts and stray wheels, carts seemed to have remained popular from Sub-periods II to VIII. The specimens of earlier Sub-periods (II to IV) are more ornate, while those from V to VIII are rough and crude.

A large number of wheels were discovered. They were both of the plain and decorated varieties (pl. XLVII A). They range from Sub-periods II to VII. Besides, stamps and flesh-rubbers (pls. XLVII B and XLVIII A) were also obtained.

Pl. XLVI

A. Toy-cart. Front view showing bullocks under a yoke. The perforation for the central yokepole is prominently seen.

B. Toy-cart. Side view showing decorated wheel. The perforation for the axle is also available.

Pl. XLVII A

1. Wheel. It is elaborately decorated with concentric leaf pattern. Mould-made. Stratigraphy uncertain.

2. Wheel. Plainly-modelled. Hand-made. Sub-period V.

3. Wheel. Similar to no. 2 above. Sub-period III.

4. Wheel. Similar to no. 2 above. Sub-period VI.

5. Wheel. The spokes are prominently shown in relief. Mould-made. Sub-period V.
6. Wheel. Plainly modelled. Hand-made; Sub-period VI.
7. Wheel. Similar to no. 6 above. Sub-period IV.
8. Wheel. Similar to no. 5 above. Sub-period V.
9. Wheel. Similar to no. 3 above. Sub-period III.
10. Wheel. Similar to no. 8 above. Sub-period V.

Pl. XLVII B

1-4. Stamps showing different designs. Such objects have been reported from other sites as well.

Pl. XLVIII A

1. Flesh-rubber. It is the best specimen of the type. One side is plain and smooth while the other is rough and intended for use. Sub-period V.

2. Flesh-rubber. It is a rectangular piece showing triangular notches. It is the earliest specimen recovered from the excavation. Sub-period III.

3. Terracotta model of a pestle (?). Sub-period VIII.

4. Flesh-rubber. Circular in shape. One of its sides is smooth, while the other is roughened by criss-cross incisions. Sub-period VII.

5. Flesh-rubber, triangular in shape. It shows disconnected oblique incision. Sub-period IV.

6. Flesh rubber, oblong in shape. It is roughened by criss-cross lines. Sub-period VIII.

CHAPTER VII

STONE SCULPTURES

THE present excavation yielded about a dozen stone sculptures, mostly from pits of different Sub-periods. Valuable though they are as illustrations of the art of the period they belong to, they furnish no information about the religious predilections of the inhabitants of the area, for they are a mixed group, some being Hindu, others Jain and still others quite indeterminate. Seven of them are illustrated here.

Pl. XLVIII B

It is an *ayagapatti* showing a plain circular area in the centre with prominently ridged circumference around which are arranged a *purni-ghaṭi*¹ of a type extremely popular in the period and a seated lion with prominent manes. The space in between being filled with a floral design.

Sandstone. Sub-period VI.

Pl. XLIX A

It is a piece with boldly-carved figures of Hārīti and Pāñchika. Hārīti is seated under a canopy with a child in her left arm and holds a bunch of flowers. She wears a torque round her neck, and a chain of pearls hangs between her two rather prominent breasts. The child touches her left breast with its left hand. Pāñchika is seated in his traditional fashion with the purse in the right and cup in the left hand.

The Pāñchika and Hārīti figures were very common and a number of identical pieces have been reported from Kauśāmlī and Mathurā.

Mathurā sandstone. Sub-period VIII

Pl. XLIX B

It is a head of some Jain Tīrthaṅkara. It has prominent oval-shaped eyes with pointed edges, eyebrows shown with prominently arched grooves, nose with wide nostrils, thick arched protruding lips with prominent depression at the corners, round inconspicuous chin and unusually large ears. The hair is shown by wavy coils.

Mathurā sandstone. Pit of Sub-period VIII

Pl. L A

It is a piece in which is carved a mother with a child in her lap. The mother is shown seated with her right hand raised, while the child rests on the left thigh and inclines against the left arm. The rendering of the legs is extremely uncouth.

Buff sandstone. Pit of Sub-period VIII.

¹ For the significance of *purni-ghaṭi*, see A.K. Coomaraswamy, *Yakṣas*, pt. II, (Washington, D.C., 1931.) p. 61.

Pl. L B

An unfinished carving of a foreigner's head. The mouth was not fully completed but the sculptor's intention of carving a foreigner is made clear by the cap.

Buff sandstone. Sub-period VIII

Pl. LI A

Gaṇeśa¹ seated in the typical posture. The features that deserve attention are the realistic rendering of the temples, the fan-shaped ears, the tusks, the trunk curved to right, and the four hands holding four objects (now indistinct). Gaṇeśa wears a necklace and *chhannavīra* (?).

Buff sandstone. Pit cut in Sub-period VIII.

Pl. LI B

It is possibly a *nāga*-figure. The prominent features are a canopy of hoods of snakes and head inclined slightly to the left. The hair is arranged in wavy curls and is tied behind in a knot. It has prominent disc-shaped ear-lobes, is dressed upto the waist in a typical male dress and holds a fruit or vessel in the left hand and a rosary in the right.

Sandstone. Pit cut in Sub-period VIII.

¹ Ibid. pt. I, pl. 18, Gaṇeśa from Bhumara.

CHAPTER VIII

SEALS AND SEALINGS

THE excavation yielded four seals and eleven sealings or impressions of the seals on clay. Of these ten are inscribed while the remaining five are uninscribed. Most of the symbols on these seals and sealings occur on contemporary coins also. Such symbols include three arched hill, *nandipada*, *svastika*, river, circle, flag, *śaṅkha*, etc. It is not unlikely, therefore, that these seals were manufactured by the same hands that produced the coins. It is also equally plausible that the manufacturers of both seals and coins drew upon a common tradition of popular belief. Some of the symbols have an obvious religious connotation. The *triśūla-cum-axe* occurring on a sealing of a Bhāgavata-griha does not require any explanation. Similarly, the combination of symbols for river, mountain and sun and moon also seems to have had a religio-mythological connotation. The designs, letters and symbols seem to have been executed with a graving tool.

Most of these seals served some practical purpose, perhaps signifying authority. One of them, No. II, however, seems to have been used as an ornament. Seals like those of Kaniska and Bhāgavata-griha were obviously attached to some documents. The holes and the impressions of the thread or string are very clear. It is, however, difficult to determine the precise manner of the use of seals.

The illustrated examples are listed below.

(a) *Inscribed seals and sealings (Pl. III)*

I. It is a circular button-shaped seal with a perforated prominent knob. The seal has four letters reading in a clockwise direction *Dutakasa*.

The letter *du* still retains a later Mauryan form. To a horizontal central bar are added two vertical bars—the upper one on the right side of the letter and the lower one on the left side. That the letter is only slightly later than its Aśokan counterpart is indicated by the slight thickening of the top of the upper vertical bar as also by the curvature at the junction of the upper vertical and the central horizontal bars. The letter appears to be a lineal descendant of Aśokan *du* occurring in the inscriptions at Jangada and Gupār.

The next letter *tu* is still semi-circular but its top is slightly thickened. On the other hand the lower curve of the semi-circle is slightly sharpened. This letter also appears to be slightly later than its Aśokan counterpart.

The next letter *ka* is dagger-shaped. The upper vertical has been considerably thickened and in general, the letter is similar to its counterpart at Bhārlut and Pabhosā.

The shape of the last letter *sa* is slightly uncommon. In its present form the letter appears to belong to a phase of Brāhmī described by Bühler as later Mauryan or younger Mauryan.

The seal, therefore, is ascribed to the early second century B.C.

Stone. Sub-period II. It is the earliest seal discovered in the excavation.

2. It is a sealing with five letters marked in anti-clock-wise fashion. The letters read *Jarayadeva*.

The letter *ja* resembles very much the English E. The vertical line is slightly curved. The letter can be compared to the letters of this type occurring in the inscriptions of Daśaratha and those from Bhārhut.

The letter *ra* is represented by a vertical broken line slightly thickened at the top. This letter also has analogies in the inscriptions referred to above.

The letter *ga* has a family-likeness to the letters occurring in Jaugadā and Girnar inscriptions of Aśoka.

The letter *de* is round-backed and open to the left. It is in appearance later than the Mauryan and goes with the types represented in Columns XVI to XX of pl. II of Bühler's charts.

The last letter *va* has nearly a flat base and has a form very similar to those occurring at Bhārhut and Pāthosā.

The seal is, therefore, to be dated to the end of the second century B.C.

Terracotta. Sub-period III.

3. It is nearly a circular button-shaped sealing with the letters *Vimānasa*.

The letters are closely comparable with those occurring on the coins of the later Mitras from Kauśāmbī. The sealing, therefore, is to be assigned to end of first century B.C.

Terracotta. Sub-period IV.

4. This sealing is rectangular in shape with a lug to one side. The impressions of the double threads in the lug clearly indicate that the sealing was affixed to some royal document. The finger-prints on the back of the sealing are very clear. It reads as follows:—

1. *Maharajasya rajati-*
2. *rajasya deva-putrasya-*
3. *Kaniskasya prayo-*
4. *ga*

'In the service of Mahārāja Rājātirāja Devaputra Kanishka.'

The palaeography of the seal does not call for any special remarks. The letter *sa* occurs four times and always has a typically Kuṣāṇa appearance with a loop below on the left. In the second line attention may be drawn to letters *pa* and *tra*. There is little difference in the manner in which *u* and *r* are joined. Consequently letter 5 in line 3 can be read both as *pu* and *pra*. Evidently the letter here is *pra* and the whole expression reads *prayoga*, meaning 'in the service of'. Letter *na* (no. 2 line 3) still retains the older form.

Terracotta. Sub-period V.

5. It is an oval-shaped clay-sealing with an interesting motif. In the upper half of the sealing there is a wavy line, possibly indicating in this case the river Yamunā. Above this is the *triratna* symbol. In the lower half there are five letters reading *Dushasata*.

The letter *da* is very similar to the one occurring in Kuṣāṇa inscription. The same is true of *sha*. The next letter *sa* has a slightly strange form. Letter *ta* also is more akin to its Kuṣāṇa prototype. The vertical is still comparatively longer, and the letter has not yet broadened as in the inscriptions of the post-Kuṣāṇa period. Evidently it is a seal of an individual whose name was Dushasata. The sealing is to be assigned to the end of the first or early second century A.D.

Terracotta. Sub-period VI.

6. Oval-shaped sealing. From the impressions of the thread and holes on the back of the seal it is clear that it was attached to a document.

Enclosed within a border consisting of two concentric circles with roughly equidistant bars are three symbols and an inscription in two lines. The symbol to the right of the inscription represents the trīśūla to which is attached an axe. It is shown fixed to a platform. The symbol to the left of the inscription is possibly a tree with roots. The symbol at the centre occurs on certain seals from Bhīṭa.¹ and has been interpreted as a *liṅga*. In this case, however, it does not appear to be a *liṅga* but a structure with a pyramidal roof supported by columns and in general having a *ratha*-like appearance. The sealing reads:—

1. *Bhapotikasaya*
2. *Bhagavata-gaha*

Translation: of the house (temple) of Bhagavat, (Śiva) of Bhapotika.

Evidently it is a Śiva seal of the Śiva temple of Bhapotika. Bhapotika might be the name of the place or the donor.

The letters of the inscription are closely comparable with the letters of later Kuṣāṇa inscriptions. On palaeographic grounds, therefore, the seal can be assigned to the late first or early second century A.D.

Terracotta. Sub-period VI.

There is another seal (not illustrated), identical to no. 6. This sealing, however, was not attached to any document, and was possibly votive.

Terracotta. Sub-period VI.

7. Circular clay sealing with a symbol and inscription. In the upper half there is a symbol consisting of a crescent-like object placed above a boat-like object. The latter is placed inside an object of a similar appearance with a lug in the centre below which seems to have been attached a string. The meaning of the symbol is not clear. The inscription reads '*pakhu*'.

Evidently it is the seal of an individual. Palaeographically it is to be dated to early half of fourth century A.D.

Terracotta. From a pit cut into Sub-period VIII.

8-8a. It is a clay ball with a deep oval impression and has possibly four letters reading *Utaṛichha*. It is possibly the name of some individual. Palaeographically the sealing is to be assigned to the first half of the fourth century A.D.

Terracotta. From a pit cut into Sub-period VIII.

9. It is an engraved circular tablet with six inscribed letters which read:—

1. *Kakhu*
2. *yoti*
3. *nje*

It is not unlikely that somebody just scratched some letters on the baked disc without meaning any thing. Unstratified

(ii) *Uninscribed Seals And Sealings (pl. LII)*

10. It is a cone-shaped seal with flat circular ends. The lower end has three *svastikas* enclosed within a circle of dots. The other end (not illustrated) has a single *svastika* at the centre of a similar circle.

Terracotta. Sub-period IV

¹ *An. Rep. Arch. Surv. Ind.* 1911-12, pt. XVIII, Nos. 14 & 16. For the device bearing a central trīśūla with subscript wheel on the seals found at Kumrahar, see *ibid.* 1912-13, p. 82.

11. It is a conical clay seal with a *triratna* symbol enclosed within a circle.

Terracotta. Sub-period VI.

12. It is a conical seal with a number of symbols. On the bottom of the seal is a wavy line representing possibly a river. Above this is the three-arched hill, on the right of which in the top right corner of the seal is a crescent. On the top left of the seal is a circle. Possibly the crescent represents the moon and the circle the sun.

Terracotta. Sub-period VI.

13. It is a sealing with four symbols. In the centre is the most important symbol, *triratna*. Below it is a flag-staff. On its right side is a *svastika* and on the left is a conch or *śaṅkha*.

Terracotta. Sub-period V or VI.

14. It is a sealing with a standing human figure. The figure is fully dressed, has a cap on the head and holds some object in the uplifted left arm. The left hand rests against some object. The figure has a marked similarity to those appearing on the Kuṣāṇa and Gupta coins.

Terracotta. Sub-period VIII.

CHAPTER IX

COINS¹

DURING the two seasons of excavation at Kauśāmbī, a large number of coins were found on the site, the majority of them obtained from three hoards. The remaining ones came variously from stratified layers. The material of the coins is copper. Surprisingly enough, no coins of gold or silver were recovered.

The first hoard, comprising fiftyfour coins, was found in a disturbed layer. Its date, therefore, cannot be definitely determined. It was probably buried between A. D. 200 and 250. Out of the coins forty-nine were of Magha kings, one of Kaniṣka, three of Huviṣka and one of Vāsudeva. The earliest coin in this hoard was a cast dumpy piece which might have been issued some time between 50 B.C. and A. D. 50. The date of the hoard is tentatively determined by the Magha coins, assignable to *circa* A.D. 200. The few Kuṣāṇa coins found in it would show that they continued to be current in Kauśāmbī even during the rule of the Magha kings.

The second hoard, of one hundred and thirtysix coins, is more homogeneous. It consists of coins issued by the rulers of the Magha dynasty. Unfortunately, most of the coins are blurred and indistinct, only thirteen being identifiable. Twelve are of Śatamagha, and one of Vijayamagha, a late ruler of the dynasty.

The date of the interment of the hoard would be later half of the third century A. D. In this hoard there was a small thin copper coin with the letter *ma* of the Kuṣāṇe period.

The third hoard consisted of one hundred seventyone coins, which, with the exception of four blurred ones, were all of the Magha dynasty. Among the identified coins of this hoard, fifty were of Śivamagha (pl. LIV, 36-40), three of Śatamagha (pl. LIV, 41-43), nine of Vaiśravaṇa (pl. LIV, 44-45), and ten of Vijayamagha (pls. LIV, 46, and LV, 47-49).

The fact that all these three hoards consisted of the coins of Magha kings with a very negligible mixture of Kuṣāṇa pieces would show that during the Magha rule the currency of that dynasty was very popular and that the coins of the earlier rulers were no longer current in any appreciable number.

We shall now survey the remaining coins found on the site. Among them, the earliest coins are the cast ones, mostly uninscribed. In this category we may distinguish three main groups.

¹ This section of the report was contributed by late Dr. A.S. Altekar, Director, K.P. Jayaswal Research Institute, Patna.

The first group, consisting of lanky-bull coins, is well known to have been associated with Kauśāmbī. These coins were found in the strata equated with Sub-periods I B-III, assignable to *circa* third century B.C. to 50 B.C. It is interesting to note that they are of different denominations. The one on pl. LIII, 3 weighs 72 grains : it was obviously a half *kārṣāpaṇa*. The same probably was the case with the coin on pl. LIII, 2, which weighs 63 grains. The coin on pl. LIII, 1, probably a *kākiṇī*, weighs 33 grains, and the one on pl. LIII, 5, 16 grains, would be a half *kākiṇī*. Some of the coins in this group were very thin and some others broken. No. 329 was found in a stratum assigned to *circa* 250 B.C.

The second group of coins is also of the well-known type, having elephant on one side and a tree-in-railing on the other. Two of them are twin coins, not separated after having been taken out from the mould. Another (pl. LIII, 12) was found in Sub-period I B assignable to *circa* 250 B.C., while yet another (not illustrated) was found in a stratum later by a century. The coins of this type are well-known from other ancient sites, *viz.*, Pāṭaliputra, Rajgir, etc. Many of them go back to the third century B.C.

The third class of cast coins is represented by square or oblong cast pieces having several symbols on either side, such as tree-in-railing, hollow cross, elephant before banner, etc. This type has also been found in Rajgir and Pāṭaliputra. At Kauśāmbī, they were found in different layers dating from *circa* 275 B.C. to A.D. 200. It is thus obvious that this type continued to be current along with the coins of Mitra, Kuṣāṇa and Magha kings. Most of these coins weigh about 33 grains and were therefore obviously intended to be *kākiṇīs*. It is quite likely that coins of this and the preceding classes were private currency.

One coin (pl. LIII, 7), found in Sub-period I A, shows the banner not in front of the elephant but below it. Another coin (pl. LIII, 9) is of a different fabric. It is of dumpy type and is also a *kākiṇī*.

Among the inscribed coins found in the excavation those of the Brhaspatimitra are probably the earliest. Allan has assigned this ruler to late second century B.C. The letters of one of the coins are rather indistinct, but the symbols make it clear that it must have been issued by Brhaspatimitra (pl. LIII, 24). A coin of this ruler (not illustrated) is indistinct, but its symbols make the attribution probable. At Kauśāmbī, some other kings apparently belonging to the same dynasty were ruling in the second and first centuries B.C. Rulers of this dynasty, not represented in the finds of the excavations, are Aśvaghosha, Agnimitra,¹ etc.

The Kauśāmbī coins published elsewhere² show that this Mitra dynasty was succeeded by another Mitra dynasty which issued coins in a different fabric : these coins were not die-struck, were thick and dumpy and their obverse had tree-in-railing on one side with the inscription below arranged in a semi-circle and the reverse had the usual Kauśāmbī bull standing. To this dynasty belong Prajāpati-

¹ The coin illustrated in pl. LIV, 25 may be attributed to Agnimitra.

² A. S. Altekar, *Jour. Numismatic Soc. India*, IV (1943) pp. 10-11.

mitra, Rajamitra, Sūramitra, etc. Sixteen coins of the type of this dynasty were found in the excavation, but unfortunately most of them are extremely blurred. Two however, seem to have been issued respectively by Rajamitra and Rajanimitra (pl. LIV, 26 and 28 respectively).

So far it was not possible to assign any definite date to the rulers of this second Mitra dynasty. The stratification at Kauśāmbī, however, shows that these coins may be assigned to a period between 100 B.C. and A.D. 50. This dynasty was ousted by the Kuṣāṇas in about A.D. 60., as is amply indicated by the coins found at Buxar which show that the Kuṣāṇas overran the whole of the Gangetic plain right down to Pāṭaliputra in the reign of Kadphises. It is natural that Kauśāmbī also should have formed part of the Kuṣāṇa empire. Among the Kuṣāṇa coins found at the site, there is one of Kaniška, four of Huviška and one of Vāsudeva. The absence of any coin of Wima Kadphises is probably accidental. The fact that the coins of Huvishka are relatively numerous shows that Kuṣāṇas continued to rule throughout his reign. The coin of Vāsudeva (pl. LIV), probably shows that the Kuṣāṇas had not lost Kauśāmbī in the beginning of that emperor's reign.

Let us now consider the types. Kaniška's coins show the standing king on the obverse and standing deity on the reverse. On the coins of Huviška, we have king seated on throne or on elephant on the obverse and standing deity on the reverse. The single coin of Vāsudeva shows the king riding an elephant on the obverse and Śiva standing by side of bull on the reverse. None of the coins now shows any legend.

The evidence of stratification tends to show that King Neva or Nava was in power at Kauśāmbī before the rise of the Maghas. We can place his rule in about A.D. 150. Two coins (pl. LIV, 34 and 35) of this ruler have been found, both showing tree-in-railing (right) and arched hill (left) on the obverse and the usual Kauśāmbī bull on the reverse.

The excavation has brought forth some other coins which have no inscription. They may also be tentatively assigned to the middle of the second century A.D.

In the latter half of the second century A.D. the Magha dynasty rose to power at Kauśāmbī. It is most numerously represented among the coins found at Kauśāmbī. We have already shown above (p. 80) how the three hoards consisted mostly of Magha coins. Unfortunately most of the coins of this dynasty found on the site are blurred, rendering any classification impossible: Śivamagha, Śatamagha, Vaiśravaṇa and Vijayamagha are the rulers whose coins can be identified. Among the large number of unidentified coins, it is quite possible that there may have been some coins of Bhadramagha and Bhīmavarman.

King Puśvaśrī seems to be the last Kauśāmbī ruler represented in the coins discovered at the site. The coins of this ruler have been published before.¹ The coins recovered from the excavation (pl. LV, 50 and 51) are of the same type. They show on the obverse the tree-in-railing on right and three arched hills on left

¹ *Jour. Numis. Soc. Ind.*, IV, pl. 12.

and the inscription *Puśvaśrī* below ; on the reverse we have the Kauśāmbī bull. One of the coins (pl. LV, 50) of this ruler is in a new denomination, as it weighs 30 grains. This denomination is about one half of the one known so far, which weighed 62 grains. This coin was found in a pit sealed by layer 1. This would suggest that Puśvaśrī flourished towards the beginning of the fourth century A. D. This date has been suggested mainly on palaeographic evidence, amply supported by the stratigraphic position of the coin.

One coin of Gaṇendra, probably to be identified with Gaṇapatināga (pl. LV, 52) was found in a layer only 4 in. below the present surface. Of course it must have come to Kauśāmbī by trade. His coins were quite common at Mathurā, Padmāvātī and Vidiśā.

The non-discovery of any later coins would tend to show that Kauśāmbī was not in occupation after the middle of the fourth century A.D.

A few other coins are of special interest. A class of such coins consisted of a large number of tiny copper pieces which were current from about 250 B.C. to about A. D. 200. These coins have bull on one side and tree-in-railing on the other. Sometimes there is a group of four continuous circles below the bull. Out of these coins, ten weigh 2 grains., seven, 3 grains, five, 6 to 8 grains, two 14 grains, and one 19 grains. There are some others which are 12, 13, 11, 5 and 1 grains respectively in weight. These coins are very small and tiny ; but there cannot be any doubt that they were in use.

These coins are of the *māshaka* denomination in copper, though, as they are very small and worn out, the denominations of all of them cannot be satisfactorily determined. But the coins which weigh 3 or 4 gr. were obviously *ardhamāshakas* and those which weigh 1 or 2 gr. were quarter-*māshakas*. The *māshaka* denomination would be represented by the coins weighing 8 to 10 gr. Coins weighing 16 to 19 gr. were obviously half *kākinīs*.

These small copper *māshaka* coins were so far not known. They make valuable addition to our knowledge of ancient Indian numismatics.

Attention may be drawn to an oblong copper coin found in a layer, of S P III. This coin is extremely blurred and no definite attribution is possible. But the fabric and type show that it belonged to the cast copper series of Ayodhyā and came down to Kauśāmbī from that place. If this conjecture is correct, the evidence of stratification at Kauśāmbī would show that this series of Ayodhyā should be assigned to *circa* 200 B.C.

Another interesting coin from the excavation shows lion or tiger on one side. The other side having lion is so far not known as figuring on any coin issued in Kauśāmbī. Another interesting coin deserving special mention is a thin copper coin, parallelogram in size. It has lanky-bull to left on one side and the tree-in-railing on the other. Such a type was so far not known in this shape.

The illustrated coins listed below include some coins which are inscribed but have not yet been identified. They are being published so that they may be studied in the light of future discoveries.

| No. | Weight in grains | Metal, shape and size | Obverse | Reverse | Period | Remarks |
|--|--------------------------|--------------------------------------|---|--|--------------------|---|
| <p style="text-align: center;"><i>Pl. LIII</i> A. UNINSCRIBED CAST COINS (i) Group I (LANKY BULL TYPE)</p> | | | | | | |
| 1 | 33 (1 <i>kākinī</i>) | Copper; thin; round; .8 in. | Humped bull. Very prominent round horns to left before standard, four crescents surrounding a dot above. | Leafy tree-in-railing on top, arched hill below | Sub-period I B. | Cf. Allan, <i>Catalogue of the Coins of Ancient India</i> , var. a, p. 148. |
| | | | | <i>Nandipada</i> above wheel on left. | | |
| | | | | Ujjain symbol above <i>Svastika</i> on right | | |
| 2 | 62 | Copper; round; .94 in. | Same except standard which has a slightly different shape | Same as in 1 | Sub-period I B. | |
| 3 | 72 | Copper; round; .92 in. | Some difference in standard | Same as above | Sub-period III | |
| 4 | 20 | Copper; round; .8 in. | Same as above | Same as above | Sub-period IV | |
| 5 | 16 | Copper; thin; round; .7 in. | Bull to left before standard, wheel above | Bull to right before leafy tree-in-railing, arched hill below the bull | Sub-period II | Cf. Allan, <i>op. cit.</i> , var. b, pp. xxi and 149. |
| 6 | 22 | Copper; round; .63 in. | Bull to right before standard, of which only lower part is avail- able, Ujjain symbol above | Tree-in-railing | Sub-period IV | The bull in this case has no affinity with the bull oc- curring on the coins nos. 1-5 above. The representa- tion here is realistic. Both the obverse and reverse are dissimilar from the above types. |
| (ii) Groups II and III | | | | | | |
| 7 | 40 | Copper; rectangular; .57 × .5 in. | Elephant to left on r. facing banner below on left | Tree-in-railing, hollow cross, arched hill. | Sub-period I A. | |

| | | | | | | |
|-------------------------|----|--|---|---|---------------------------|---|
| 8 | 30 | Copper; square; ·53 × ·56 in. | Elephant to left before stand- ard, indistinct <i>swastika</i> and taurine symbol above; Ladder symbol below | Tree-in-railing, hollow cross, arched hill (possibly crescent topped) and taurine | Sub-period <i>I.B.</i> | Cf. Allan, <i>op. cit.</i> , un- inscribed east coins, var. j, pl. XI. 8 and 9. |
| 9 | 33 | Copper; dumpy square; ·52 × ·5 in. | Elephant to left before banner, very faint traces of taurine and <i>swastika</i> above and ladder-symbol below | Extremely blurred; possi- bly tree-in-railing and some other symbols | Sub-period III | |
| 10 | 40 | Copper; square; ·5 × ·6 in. | Elephant to left on r. before banner to left below, <i>swastika</i> and taurine above | Leafy tree-in-railings; right, hollow cross; left, arched hill and taurine above. | Sub-period IV | |
| 11 | 34 | Copper; square; ·56 × ·6 in. | Same as in no. 8 | Same as in no. 8 | Sub-period V | |
| 12 | 34 | Copper; twin coin; round. ·47 in. | Elephant to left | Crescent-on-hill | Sub-period IB | Cf. Allan, <i>op. cit.</i> , var. q. pl. XII, 1 and 2. |
| 13 | 18 | Copper; round. ·5 in. | Same as in no. 12 | Same as in no. 12 | Sub-period III | |
| 14 | 20 | Copper; round. ·5 in. | Same as in no. 12 | Same as in no. 12 | Sub-period V | |
| (iii) CAST (TINY) COINS | | | | | | |
| 15 | 2 | Copper; round; ·3 in. | Blurred | | Sub-period III | |
| 16 | 3 | Copper; round; ·27 in. | Tree-in-railing | Blurred | Sub-period III | |
| 17 | 2 | Copper; irregular round; ·24 in. | Tree-in-railing | Blurred | Sub-period III | |
| 18 | 7 | Copper; round; ·36 in. | Tree-in-railing | Bull to right | Sub-period III | |

| No. | Weight in grains | Metal, shape and size | Obverse | Reverse | Period | Remarks |
|-------------------------|---------------------|---------------------------------------|---|---|-------------------|--|
| 19 | 5 | Copper; round; .31 in. | Tree-in-railling | Blurred | Sub-period III | |
| 20 | 3 | Copper; round; .32 in. | Tree-in-railling | Bull below above arched hill (?) | Sub-period IV | |
| 21 | 8 | Copper; round; .4 in. | Tree-in-railling | Elephant | | |
| 22 | 14 | Copper; round; .42 in. | Tree-in-railling | Very faint traces of animal, possibly bull | Sub-period IV | |
| 23 | 19 | Copper; round; .48 in. | Tree-in-railling | Bull or elephant | Sub-period V | |
| B. INSCRIBED CAST COINS | | | | | | |
| 24 | 106 | Copper; round; .7 in. | Tree-in-railling with large leaves, another indistinct symbol to left. | Crescented hill above counter struck with Nandipada within incuse <i>Pl. LIV</i> | Sub-period III | Cf. Allan, <i>op. cit.</i> , pl. XXI, 18. |
| 25 | 42 | Copper; round; .65 in. | Completely blurred, tree-in-railling counter struck with <i>nandipada</i> | Tree-in-railling in centre; vertical wavy line on the right, <i>nandipada</i> on left. legend. (<i>ta</i> or <i>gi</i>) <i>mī ta</i> . It may belong to Agnimitra | Sub-period V | Stratigraphy uncertain. |
| 26 | 15 | Copper; round; .44 in. | Tree-in-railling; legend (Rajamitasa) | Bull to right | Sub-period IV | |
| 27 | 82 | Copper; round; .8 in. | Leafy tree-in-railling; legend below Ra (?) <i>janmitasa</i> . | Blurred | Sub-period IV | |
| 28 | 59 | Copper; round; .72 in. | Leafy tree-in-railling; legend below <i>Rajamitasa</i> . | Bull to right | Sub-period V | |
| 29 | 196 | Copper; round; .96 in. | King. Scythic dress with standard in his left hand | Standing deity | Sub-period VII | |
| 30 | 183 | Copper; irregular round; .9 in. | King seated, left hand raised | Standing deity below symbol | Sub-period VII | Huvishka. |

| | | | | | | |
|----------------------|-----|---|--|-----------------------------------|--------------------|------------|
| 31 | 195 | Copper; round; ·94 in. | King seated cross-legged | Deity as above | Sub-period VII | Huviska |
| 32 | 197 | Copper; round; ·9 in. | King riding elephant to right | Deity standing right hand raised. | Sub-period VII | Huviska |
| 33 | 183 | Copper; round; ·9 in. | King riding elephant | Śiva standing by the bull | Sub-period VII | Vasudeva |
| C. Post—KUSĀṆA COINS | | | | | | |
| 34 | 34 | Copper; irregular round; ·65 in. | Tree-in-railing right arched hill left; legend <i>Nevasa</i> | Blurred, possibly bull | Sub-period VI | Nevasa. |
| 35 | 65 | Copper; irregular round; ·55 in. | Symbol indistinct; legend <i>Nevasa</i> | Blurred | Sub-period VI | Nevasa. |
| 36 | 35 | Copper; irregular round; ·56 in. | Legend blurred in square, incuse above very faint traces of tree, below legend <i>Śivama</i> | Blurred | Sub-period VII | Śivamagha. |
| 37 | 42 | Copper; irregular square; ·52 × ·66 in. | Symbols blurred, legend <i>Śivama</i> above, ladder-shaped border below | Completely blurred | Sub-period VII | Śivamagha |
| 38 | 44 | Copper; irregular oblong, ·5 × ·45 in. | Legend <i>Vamagha</i> | Completely blurred | Sub-period VIII | Śivamagha |
| 39 | 34 | Copper; irregular. | Legend Śiva above dotted border below. | Blurred | Sub-period VII | Śivamagha. |
| 40 | 44 | Copper; irregular. | Three-arched hill to left, faint traces of tree-in-railing on right; legend below <i>vamagha</i> in incuse | Bull to right | Sub-period VII | Śivamagha. |
| 41 | 31 | Copper; irregular | In square incuse; legend <i>tamagha</i> | Blurred | Sub-period VII | Śatamagha. |

| No. | Weight in grains | Metal, shape and size | Obverse | Reverse | Period | Remarks |
|--------|---------------------|-----------------------------------|--|---------------|---------------------|--|
| 42 | 33 | Copper; irregular | In square incuse; legend <i>tamagha</i> | Blurred | Sub-period VII | Śatamagha. |
| 43 | 42 | Copper; irregular | Legend <i>sata</i> ; tree-in-railling | Blurred | Sub-period VII | Satamagha. |
| 44 | 34 | Copper; irregular | In square incuse, very faint traces of legend <i>Vasrava</i> | Bull to right | Sub-period VII | Vaiśravaṇa. |
| 45 | 40 | Copper; irregular | In square incuse; legend <i>śravaṇa</i> . | Blurred | Sub-period VII | Vaiśravaṇa. |
| 46 | 43 | Copper; round; .65 in. | In square incuse above, arched hill on left, tree-in-railling on right; below legend <i>Vijayana</i> | Bull to right | Sub-period VII | Vijayamagha. |
| Pl. LV | | | | | | |
| 47 | 43 | Copper; irregular .5 × .62 in. | Blurred; legend <i>yanmagha</i> | Blurred | Sub-period VII | Vijayamagha. |
| 48 | 23 | Copper; irregular .52 × .54 | Blurred; legend <i>gana</i> | Blurred | Sub-period VII | Vijayamagha. |
| 49 | 41 | Copper; irregular .5 × .62 in. | In square incuse arched hill on left above, tree-in-railling on right; legend below <i>Jaya</i> | Blurred | Sub-period VII | Vijayamagha. |
| 50 | 30 | Copper; round; .7 in. | Above arched hill on left, tree-in- railling on right; below legend <i>Puśvasri</i> | Bull to right | Sub-period VIII | Puśvasri |
| 51 | 64 | Copper; round; .54 in. | Above arched hill on left, traces of tree on right; below legend <i>Puśvasri</i> | Bull to right | Sub-period VIII | Puśvasri |
| 52 | 8 | Copper; round; .34 in. | Circular legend <i>Maharajaganendra</i> | Bull to left | Post- habitation | The coin seals the last habitation. |

| No. | Weight in grains and size | Metal, shape | Obverse | Reverse | Period | Remarks |
|-----|------------------------------|--|--|--|---------------------|---|
| 62 | 27 | Copper; round; .5 in. | Blurred | Tree-in-railing (?) blurred. | Sub-period V | The fabric corresponds to Mitra coins. |
| 63 | 102 | Copper; thick dumpy round cast, .7 in. | Bull to right | In square incuse tree-in- railing, legend laid vertical- ly on right of the tree read- ing <i>Ja-tham(e)</i> . It may also read <i>Radham</i> (<i>e</i>) but reading <i>tham</i> (<i>e</i>) is more like- ly | Sub-period V | Jyeshthamitra (?) |
| 64 | 14 | Copper; broken piece of roundish shape, .67 in. | Human figure with a bolt to left on right facing animal (?) | Tree-in-railing (?) | Sub-period 1B | |
| 65 | 4 | Half of a dumbie shaped coin | Blurred | Blurred | Sub-period III | |
| 66 | 16 | Copper; round; .5 in. | Dog(?) to right | Blurred | Sub-period V | |
| 67 | 32 | Irregular round. | Blurred, possibly bull | In square incuse, blurred | Sub-period VI | |
| 68 | 14 | Copper parallelo- gram; .4 × .38 in. | Lanky bull or horse to left, <i>svastika</i> between mouth and rais- ed right leg. | Tree-in-railing | Sub-period VI | |
| 69 | 44 | Copper; oblong; .54 × .76 in. | Blurred | Possibly tree-in-railing. | Post-structural | |
| 70 | 29 | Copper; square; .43 × .5 in. | Blurred | Tree-in-railing to left, some other symbol to right, below legend of three letters; last one reading <i>sr</i> . | Sub-period V | The fabric corresponds to Mitra coins. |
| 71 | 40 | Copper; round; .5 in. | Marginal legend not clear; traces of few letters looking like <i>ga na</i> etc. | Indistinct symbols, possibly tree-in-railing | Post- structural | |

CHAPTER X

MISCELLANEOUS FINDS

1. STYLI

MORE than eighty styli were recovered from Cuttings KS-1 and KS-III, distributed in all the strata from Pre-structural I to Sub-period VIII, with the larger concentration between Pre-structural IV to Sub-period II. They were made of ivory, horn and bone, ten being of horn, four of ivory and the remaining ones of bone. Their maximum length was 4 in. and minimum 1.8 in., the majority having an average length of 3 in. Most of them were discovered in a fragmentary condition, but it was clear that with a few exceptions almost all of them had sharply chiselled and pointed edges on both the sides. Some, however, had a flat or circular butt-end. The properly-finished ones were circular in section but a larger number showed a crude workmanship, with a flattened irregular section.

The more important and nearly complete specimens are listed below.

Pl. LVI A

1. Bone stylus with both ends sharpened but subsequently broken. Length 3.2 in. Pre-structural IV.
2. Bone stylus, with only one end sharpened. It has a thick flat butt-end. Length 4.2 in. Sub-period II.
3. Bone stylus with both ends sharpened. Length 2.8 in. Sub-period IV.
4. Bone stylus with both ends sharpened. Length 3.2 in. Sub-period.
5. Bone stylus similar to no. 4 above. Length 2.6 in. Sub-period IV.
6. Ivory stylus with a conical butt-end and possibly a pointed writing edge, now missing. The body is decorated with three concentric grooves. Sub-period I A.
7. Bone stylus with both ends sharpened. Length 2.75 in. Sub-period II.
8. Bone stylus with both ends sharpened. Length 2.5 in. Sub-period I A.
9. Bone stylus with both ends pointed. Length 2.9 in. Sub-period I A.
10. Bone stylus with both ends sharpened. Length 2.5 in. Pre-structural I.
11. Bone stylus with both ends sharpened. Length 2.6 in. Sub-period I B.
12. Bone stylus with both ends pointed. Length 2.6 in. Sub-period VI.

2. BANGLES

The excavation yielded one hundred and seventynine bangles, variously of shell (fiftyseven examples), stone (ten examples), ivory (six examples), glass (sixtythree examples), terracotta (forty examples) and copper (three examples). Glass seems to have been the most popular material with shell as a close second. Terracotta bangles, though less numerous than those of shell and glass, show a greater variety. Stone, ivory and copper ones were less common.

The commonest type was flat on the inner side and either convex or relieved by a mid-rib on the outer side, a few being flat on both the sides. In section they were either circular or triangular or oblong or even pentagonal or hexagonal.

Shell bangles occurred from Sub-periods IA to VIII, terracotta from Sub-periods II to VIII, glass from Sub-periods V to VIII (with a doubtful exception in Sub-period IV), ivory from Sub-periods IV to VI, stone from Pre-structural V to Sub-period VIII and copper from Sub-periods IV to VII. The maximum available diameter was 4 in. and the minimum $1\frac{1}{2}$ in.

Of the fiftyseven shell bangles, eleven were distributed in Sub-periods IA to IV and fortysix in Sub-periods V to VIII. It is clear, therefore, that shell bangles, though beginning in Sub-period I A, were more in fashion from Sub-period V onwards. They ranged from 4 to $1\frac{1}{2}$ in. in diameter, the majority ranging from $2\frac{1}{2}$ to $3\frac{1}{2}$ in. They were generally of crude workmanship, only a few having an evenly circular inner or outer surface. The larger proportion of them were flat and with an uneven rectangular section, only three pieces being decorated. The one illustrated on pl. LVII, 6, had six holes filled with copper points, and that on pl. LXIII, had a doubly-grooved outer surface. Another specimen showed a single groove at the top.

Of the forty terracotta bangles, three were from Sub-period II, one from Sub-period III, eight from Sub-period IV, six from Sub-period V, thirteen from Sub-period VI, seven from Sub-period VII and two from Sub-period VIII. The maximum diameter available was $2\frac{1}{2}$ in. and the minimum $1\frac{1}{2}$ in. On account of the plasticity of the material they show a richer variety of forms than those of the other materials, the more common pattern of decoration consisting of either impressed finger-patterns or oblique grooves.

Glass bangles, distinguished both by variety and colour, were the commonest and formed more than one-third of the total collection. The colours represented were blue, black, green, yellow ashy-green and polychrome. In certain examples, mostly those in black, blue and green, a narrow strip or a chain of bubble-like dots of white colour ran like a mid-rib around the outer surface. Blue bangles showed the largest number of shades including sea-blue, light-blue, violet-blue, sky-blue etc. Green had also a number of shades varying from light to dark.

With the doubtful exception of a piece or two, glass bangles were distributed from Sub-periods V to VIII, as follows : Sub-period VIII, forty; VII, ten; VI, seven; V, five; and IV, one. Black glass bangles were the first to be introduced at the site. They were found in all the Sub-periods from V to VIII. Blue and green were available only from Sub-periods VI to VIII. Yellow, ashy-green and polychrome were, however, confined to Sub-periods VII and VIII.

As compared with glass and shell, stone bangles were scarce but were interesting in so far as they were available from Pre-structural V to Sub-period VIII. According to the available evidence, therefore, stone bangles were the first to be used here and remained in fashion till the last Sub-period of the site (*circa* 400 B.C.

to A.D. 350). They were represented in only one material, viz., agate. They were usually very flat, thick and heavy. Some of them might have weighed even more than a quarter lb.

Only six examples of ivory bangles, almost all of them oblong or square in section, were discovered.

Copper bangles were still more scarce, only three specimens being known. They were made of copper wires of different thicknesses.

The following is the list of some representative types :

Pl. LVII

1. Bangle, prepared in three pieces and joined before firing. In shape it looks like the segment of a circle. Of the three pieces one has an even internally concave and externally convex circular body, while the remaining two have a triangular fluted section.
Terracotta. Sub-period IV.
2. Bangle, curved in section.
Ivory. Sub-period VII or VIII.
3. Fragment of a bangle, oblong in section.
Terracotta. Sub-period V.
4. Fragment of a bangle, semi-circular in section. The complete piece must have weighed nearly a quarter of a pound. The internal and external surfaces are well-polished.
Agate. Sub-period V.
5. Fragment of a bangle, square in section.
Shell. Sub-period V.
6. Fragment of a bangle, rectangular in section. There are two holes in the mid-portion, one of which is revetted with a copper nail. The piece is interesting as it shows that the bangle was decorated by approximately six such revets.
Shell. Sub-period I A.
7. Fragment of a bangle, irregularly oblong in section.
Shell. Sub-period VII or VIII.
8. Fragment of a bangle, circular in section.
Terracotta. Probably Sub-period VII.
9. Fragment of a bangle with a fluted body, hexagonal in section.
Terracotta. Sub-period II.
10. Fragment of a bangle, circular in section. The body is decorated with notches.
Terracotta. Sub-period II.
11. Fragment of a bangle, roughly circular in section. The external surface is decorated with applique finger-tips.
Terracotta. Sub-period V.
12. Fragment of a bangle, circular in section. The body on both the sides immediately below the mid-rib is decorated with notches.
Terracotta. Sub-period V.
13. Fragment of a bangle oblong in section.
Shell. Sub-period VII or VIII.
14. Fragment of a bangle, roughly circular in section and flattened on the inner side.
White banded agate with a highly polished surface. Sub-period I B.
15. Fragment of a bangle, oblong in section. The external surface is decorated with finger-tip pattern.
Terracotta. Sub-period VI.
16. Fragment of a bangle, circular in section. Possibly three pieces were joined together to form one complete specimen.

- Terracotta. Sub-period IV.
17. Fragment of a bangle, circular in section and .75 in. in diameter. Over the core, extremely coarse and gritty, was applied a thick layer of clay finally dressed in terracotta-red wash.
- Terracotta. Sub-period V.
18. Fragment of a bangle with a chain of bubble-like white dots running like a mid-rib.
- Glass, blue. Sub-period VIII.
19. Fragment of a bangle, square in section. The external surface is decorated with finger-tip pattern.
- Terracotta. Sub-period V.
20. Fragment of a bangle, semi-circular in section.
- Glass, green. Sub-period VIII.
21. Fragment of a bangle, pentagonal in section. The surface is very smooth and highly polished.
- Glass, green. Sub-period VIII.

3. GAMESMEN AND OTHER OBJECTS

Twentythree gamesmen were discovered, all of terracotta. They clearly demonstrate that the game they were used in was a favourite pastime.

The different types were intended to be distinguished from one another by means of such symbols as a bird resting over a pedestal, a cone supported on a pedestal, a lid with a knob on a stand, boat on a pedestal and ball on a dish-on-stand. It is not, however, possible to determine the meaning and identity of every piece. Two sets of gamesmen had different colours.

According to the available evidence, the game seems to have been introduced in Sub-period V and became quite popular in the subsequent Sub-periods.

The following is a list of the representative specimens :

Pl. LVIII A

1. Lid with a knob on stand. Sub-period VIII.
2. Boat on a stand. Sub-period VIII.
3. Cone on a pedestal. Sub-period VIII.
4. Bird on a pedestal. Sub-period VIII.
5. Cone on a pedestal. Sub-period VIII.
6. Fragment of a rattle. Sub-period V.
7. Small cone with a flat base. Sub-period VIII.

4. ORNAMENTS

The excavation was extremely deficient in ornaments. With the solitary exception of a gold bead (pl. LVIII, 78), no other silver or gold object was discovered. Other recovered ornaments include three copper and one terracotta finger-rings and two copper nose-rings.

A. FINGER-RINGS (*pl. LVIII B*)

All the finger-rings conformed to one and the same pattern. The metal ones (pl. LVIII B, 4, 5) were made out of plain wire, of a practically uniform thickness,

coiled to form the requisite size. No. 5 was slightly more sophisticated than the rest : the two ends of the wire were given a snake-like appearance. The loop of the terracotta ring (pl. LVIII B, 6) had a flat bezel in which was inset a conch-piece. The earliest of these rings belonged to Sub-period III and the latest to Sub-period VI.

B. NOSE-RINGS (*pl. LVIII B*)

None of the two excavated nose-rings (pl. LVIII B, 2 and 3) had any special feature : both were plain thin copper wire-circlets of which one end had been expanded into a flat knob and the other was sharpened. No. 3 belonged to Sub-period V, and 2 to Sub-period VIII.

5. CRUCIBLES

The excavation yielded a large number of crucibles. The one on pl. LVIII C, 2 had the shape of a boat and was possibly used for condensing the liquid metal. All of them were made of clay over which was possibly given a coat of sand and cowdung.

The illustrated specimens are listed below.

Pl. LVIII C

1. Crucible, tumbler-shaped, with a flat circular base, used possibly for melting metal. Sub-period VIII.
2. Crucible, boat-shaped, condensor with traces of metal sticking in the bottom. Sub-period VIII.
3. Similar to 1. Sub-period VIII.
4. Crucible with a pointed base. Sub-period VII.

6. IVORY STAND (*pl. LVI B*)

It was a rare object, only one example of which was recovered. The specimen had a flat circular base with rounded edges and a slightly concave upper surface decorated with a groove and a cordon. It had a hollow stem with splayed-out rim. The stem immediately below the rim was decorated with a very prominent cordon divided by two grooves into upper and lower ridges and a central circular cordon.

It was possibly used as a handle for mirror or lamp-stand. Sub-period IV.

A roughly similar example in hornblende-schist was found at Taxila, where it was ascribed to the Mauryan or Bactrian-Greek Period.¹

7. TOILET-CASKETS AND MISCELLANEOUS STONE OBJECTS

Of the fortysix miscellaneous stone objects, all except one were toilet-caskets,

¹ Marshall. *Taxila*. II (Cambridge, 1951) p. 508.

the exception being the handle of a sword. Toilet-caskets were invariably of steatite, as in other regions of northern and central India.¹

The caskets comprised bowls (beakers), dishes, lids or stoppers and small vases, bowls forming the larger majority. Of the fortyfive caskets twentytwo were bowls, sixteen lids or stoppers, five dishes and two miniature vases. Only six of the specimens were decorated with geometrical or leafy and floral patterns. The bowls almost invariably had a deep groove below the rim intended to receive a lid.

Some of the bowls (fig. 10, 2, 3, 15 and 17) have a marked similarity with pottery-forms (figs. 12, XIV-XXII; fig. 15, XVI-XXII) and are paralleled at Taxila². As they have a close resemblance to contemporary pottery-forms at Kauśāmbī, it is not improbable that the allied types at Taxila were imported from the Madhyadeśa. Keeping in view the fact that according to the scheme of chronology worked out here, the period coincides with the rule of the Mauryas, the export of these types from Madhyadeśa to Taxila is plausible.

On the other hand, there were some specimens, notably those in fig. 10, 9 and 14 which seemed to have been imported from Taxila. From the analysis of pottery it is clear that during Sub-periods V or VI, a large number of pottery-types of an undoubted western origin travelled to the Gangetic valley. These resemblances therefore offer further links in this commerce.

Toilet-caskets had a long duration at Kauśāmbī and ranged from Sub-periods I B to VIII, but their largest concentration was from Sub-periods III to VI. They were distributed as follows : Sub-period I B, one; Sub-period II, two; Sub-period II, nine; Sub-period IV, thirteen; Sub-period V, seven; Sub-period VI, ten; and Sub-period VII, three.

The selected examples are listed below.

Figs. 10 and 11

1. Stone bowl of steatite with an insert in-turned rim, bevelled at the top and with a deep groove below, intended to take a lid. The upper part of the oval body is decorated with grooves. It has an imperfectly flat base. Sub-period I B.

2. Fragment of a bowl of steatite. Only the base and the lower part of the body are available. The base is imperfectly flat, while the body is rounded. Sub-period II.

3. Bowl of steatite with an in-turned vertical rim, bevelled at the top. A deep groove at the base of the rim was intended to take the lid. It has a round body and a flat circular base. There are prominent grooves at the junction of the body and the base. Sub-period III.

4. Miniature bowl of steatite with an in-turned vertical rim divided into two by a deep groove. The groove was intended for a lid. It has an oval body and a footed base. Sub-period III.

5. Bowl of steatite with an in-curved bevelled rim and rounded body. Sub-period III.

6. Fragment of a bowl of steatite with a circular base, defined by a groove. Sub-period VII.

7. Bowl of reddish-buff steatite with a vertical internally thickened rim, tapering concave sides and a flat base. The body immediately below the rim is decorated with three grooves. Sub-period V.

¹ Marshall, *op. cit.*, p. 498.

² *Ibid.*, pls. 141, 99, 99b and 99c.

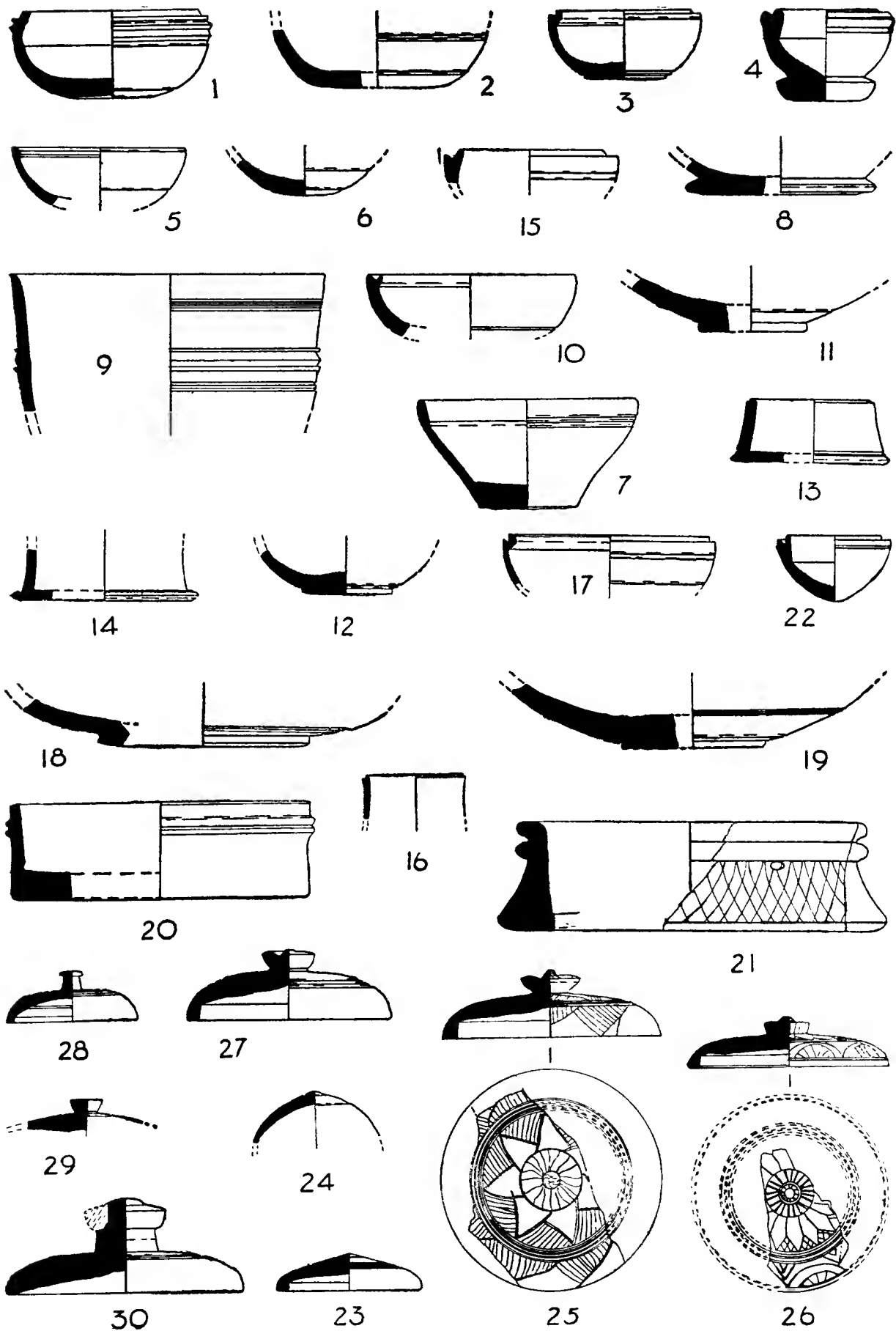


FIG. 10

8. Base of a bowl. Sub-period V.
9. Deep bowl of spotted buff steatite with an everted thinned rim and nearly tapering sides. The body in the mid-portion is decorated with two prominent ribs and below the rim with grooves. The body above and below is also decorated. Sub-period V. It has analogies at Taxila.¹
10. Bowl of darkish steatite with a rebated featureless rim to receive a lid and rounded sides. Sub-period VI.
11. Lower half of a shallow bowl of soapstone with a small button-base. Sub-period VI.
12. Lower half of a bowl of steatite with a button-base marked by incised circles immediately above it. Sub-period VI.
13. Casket probably for toilet of greyish steatite with sharply in-turned rim to receive a cover and with sides tapering upwards and a flat base. Sub-period VI.
14. Variant of the above. The base is slightly more pronounced. Sub-period VI.
15. Upper portion of a casket of steatite. It has a rebated vertical rim to receive a lid and a presumably flat base. Sub-period VI.
16. Variant of nos. 13 and 14 above. It is of a buff steatite. It is paralleled at Taxila.²
17. Bowl or toilet-casket of white steatite with a rebated thickened rim to receive the lid and rounded body. Sub-period VI. Analogues exist at Taxila.³
18. Base and lower portion of a bowl of steatite. The body was decorated with incised horizontal lines. Sub-period VI.
19. Base and a lower portion of a bowl of steatite. The body is decorated with multi-grooves. Sub-period VI.
20. Bowl of buff steatite with a vertical rim bevelled at the top. It has a round body, straight sides and a flat base. The body is decorated with prominent cordons below the rim portion. Sub-period IV. Analogues exist at Taxila.⁴
21. Bowl of steatite with out-turned featureless rim above a prominent cordon. The sides are slightly concave and taper upwards. It has a flat base. The body is decorated with incised oblique lines forming a criss-cross pattern. Immediately below the cordon there are two holes for suspension with the help of strings. Sub-period III.
22. Bowl of grey steatite with a inset vertical and rebated rim to receive a lid. It has a conical body with a pointed base. Sub-period III.
23. Lid or stopper of grey steatite. It is conical in shape and has a slightly flattened and inconspicuous knob. Sub-period IV.
24. Lid or stopper of grey steatite with a spherical profile. Sub-period III.
25. Lid of steatite with a circular knob. The external surface is richly decorated with incised patterns. Three concentric grooves divide the body in two portions. Immediately below the knob the surface is decorated with a leafy pattern. The surfaces between the circular grooves and the leaves are filled with oblique lines. The ground below the concentric circles is similarly decorated. The knob, which is crowned with a still smaller hump, is also decorated by incised lines radiating from the centre. Sub-period III.
26. Lid of buff steatite with a richly-decorated knob. The shoulder-portion is decorated with a leafy pattern, while the rim shows a half-wheel design. The knob which is crowned with a hump is decorated with incised lines radiating from the centre. Sub-period III.
27. Lid or stopper of grey steatite with a vertical rim-base and a conical knob set in a wider and main knob. The lid is spheroid in shape and is decorated in the middle with three grooves. Sub-period IV.

¹ Marshall, *op. cit.*, pl. 124, 86.

² *Ibid.*, pl. 141, 99c.

³ *Ibid.*, pl. 141, 99b.

⁴ *Ibid.*, pl. 141, 101.

28. Lid or stopper of buff steatite with a vertical featureless, undercut rim base, spheroid body and longish button-like knob. The shoulder is decorated with multi-grooves. Sub-period IV.

29. Lid or stopper of grey steatite with a small button-shaped knob. Sub-period IV.

30. Lid or stopper of reddish-buff steatite with a prominent clubbed knob. The body is marked by a number of grooves. Sub-period IV.

31. Lid of grey steatite with a small button lid. The body is decorated with two grooves enclosing a leafy design. The space between the leaves and the grooves on the rim is filled with a criss-cross pattern. Sub-period V.

32. Miniature double-tiered lid of grey steatite. Sub-period V.

33. Lid or dish of steatite with a vertical featureless rim, very low sides and a flat base. The walls are decorated with grooves. Sub-period III.

34. Lid or stopper of buff steatite with a vertical featureless rim, prominently grooved and undercut sides and grooved flat base. Sub-period IV.

35. Lid or stopper of grey steatite. It is a variant of no. 33 above. Sub-period V.

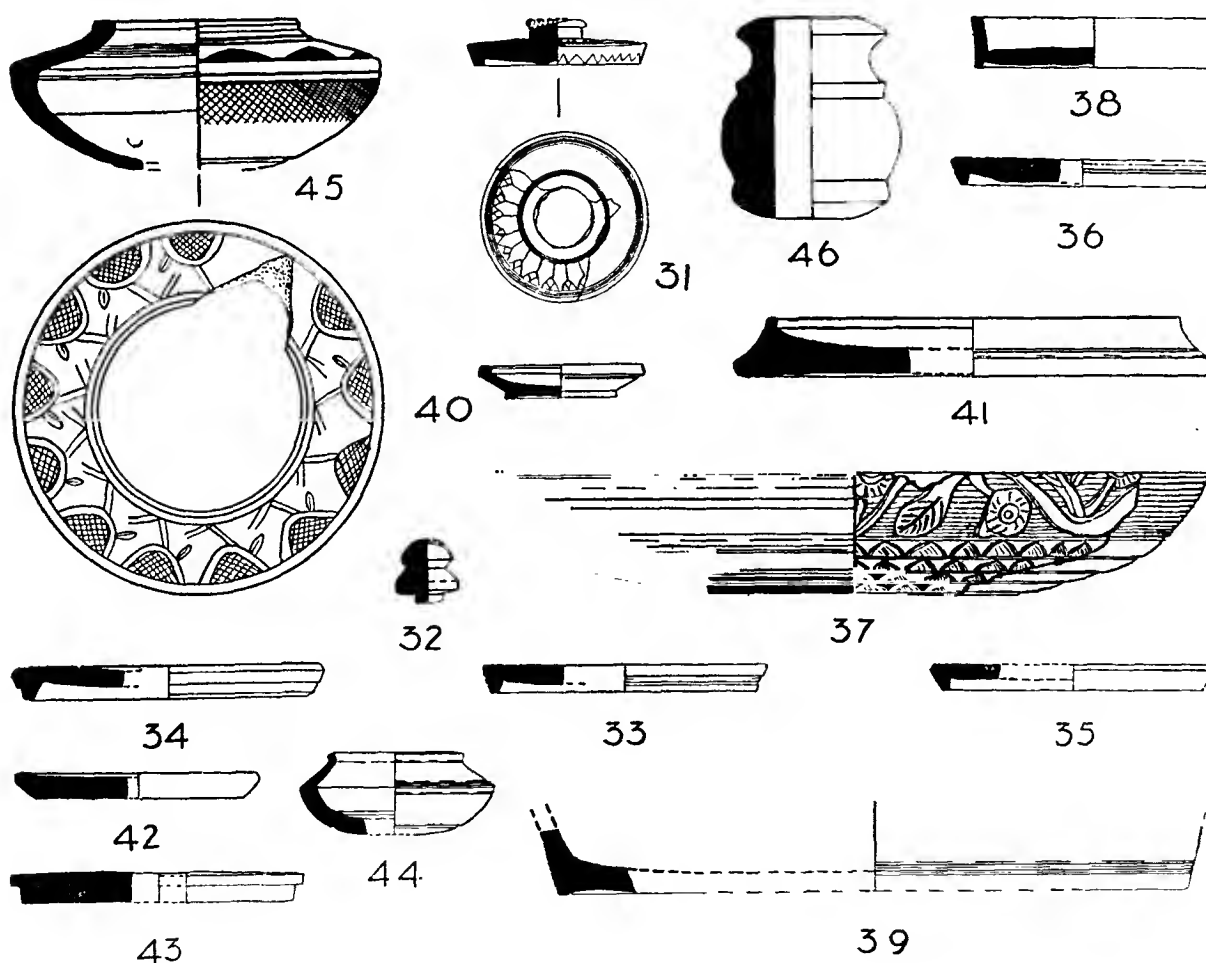


FIG. 11

36. Variant of nos. 33 and 35 above. Sub-period VII.

37. Dish of steatite with an out-turned flat topped rim, curved body and footed concave base. The dish had a perforated circular socket in the centre which was probably fixed to a stand. The outer surface is decorated with a creeper-pattern above rows of filled-in triangles. Sub-period III.

38. Dish of plain greyish-buff steatite with a vertical featureless rim and a flat base. Sub-period IV.

39. Dish of buff steatite with tapering sides and a flat base. Sub-period IV.

40. Miniature bowl of steatite with a vertical thickened rim, tapering sides and a button-base. Sub-period IV.

41. Dish or lid of white steatite. It has an in-turned featureless rim set directly above a thick base. Sub-period IV.

42. Object of indeterminate use (possibly a mortar for grinding). Sub-period V.

43. Lid of stone with undercut edges and a flat top. Sub-period VII.

44. Vase of steatite with an everted thickened rim, set on oblique shoulders forming conspicuous carination with the lower part of the body at their junction. Sub period V.

45. Vase of steatite with a thickened flat-topped vertical rim, concave shoulders and a roughly carinated profile. It has a squattish shape and a convex base. The shoulders are decorated with filled-in incised crescents, while the lower part of the vase shows a cheque-pattern. Sub-period VI.

46. Handle of quartz of a sword or dagger. The upper surface is highly burnished and polished. It has a clubbed undercut upper end with a bulbous body separated from the neck by a prominent cordon. Sub-period III.

CHAPTER XI

IRON OBJECTS

THE excavation yielded a large number of iron objects. Whereas some of them can be easily identified, a vast majority consists of shapeless and indeterminate bits. These comprised tools, weapons and objects of miscellaneous household use. The tools notably the ploughshare (pl. LIX, 2), the bell and the sickle indicate pastoral economy, while the large number of chisels, drills and sharpeners bespeak a community of stone cutters or ironsmiths. The latter class of tools do not strike a discordant note in a peasant community as revealed by the first but only supplement the picture. It would appear, therefore, that the city had not lost its rural moorings and some citizens still followed humbler pursuits of agriculture and handicrafts.

The clamps, nails, latches and chains must have formed part of the necessary equipment of each house, as wooden doors alone were probably in use. The same is true of small articles like knife, dishes and rings. The weapons also suggest a peaceful peasantry.

Of copper only two objects are illustrated (pl. LIX, 5 and 9).

Selected specimens are listed below :—

Pls. LIX-LX

1. Tanged dagger. Sub-period V.
2. Ploughshare. The expanded edge is meant to be fixed to the plough while the narrower but thicker edge tills the ground. From a pit ascribable to Sub-period VIII.
3. Borer. Unstratified.
4. Fragment of a sickle. Sub-period IV.
5. Bell (of copper) with a loope at the top for suspension. Pre-structural V.
6. Ring, used possibly for the lower end of a stick. Sub-period V.
7. Spear-head with a fissure-socket. Sub-period III.
8. Clamp to fasten the door. The object is still in use in the region. Sub-period II.
9. Ferrule (of copper). Sub-period II.
10. Chisel with an expanded cutting edge and a thinner butt end which was hafted to a wooden handle. Sub-period III.
11. Chisel. Sub-period VIII.
12. Chisel of squarish section. Sub-period VIII.
13. Chisel, used particularly by the stone-cutters. Sub-period VIII.
14. Chisel. Sub-period VII.
15. Latch. Sub-period VI.
16. Drill of squarish section. The thicker butt end was hafted to a wooden handle. Sub-period VI.
17. Fragment of a ladle with a handle. Sub-period IV.

18. Spear-head with a socketed tang. Sub-period III.
19. Nail of squarish section with a flattened knob-head. Sub-period VIII.
20. Object of indeterminate use (probably a sharpener). Sub-period V.
21. Fragment of a chain, used for fastening doors. Sub-period VIII.
22. Fragment of a spear. Sub-period VI.
23. Nail, oblong in section with a flat head. Sub-period VI.
24. Ladle with an incomplete handle. The type, still in vogue, is used for taking out liquids
Sub-period VII.

CHAPTER XII

BEADS¹

1. INTRODUCTORY

BEADS from Cuttings KS-I and KS-III are studied here according to their materials, shapes and chronology. With materials obtained from a single excavation it is somewhat difficult to say whether a particular type was current in a particular period in the life-history of the site; but certain broad conclusions, as seemed justified, have been made from the material at hand and from the large number of unstratified specimens displayed in the Allahabad Museum which is the largest depository of beads from Kauśāmbī as well as from the private collection of Shri Janeshwar Dass of Allahabad. These are further checked from collections in the Patna and Lucknow Museums and at the Bharat Kala Bhavan, Banaras. Though these are primarily surface finds, their value as a clue to the different types obtained from the stratified levels during the excavations at Kauśāmbī cannot be altogether ignored.

For the distribution of the various types, I have mainly relied on the data supplied by the excavations conducted or attended by me and other stratified material from published reports, besides collections in different museums. I am aware that a typological study of surface collections without any chronological background is futile, but in a large country like India I feel that it has its own importance for knowing as to where to look for the comparative material in different geographical regions. My comparisons, therefore, in the present state of knowledge, should be regarded as pointers to the various parallel-types and should not be taken as inferential data. Within these limitations I have attempted to give as much material as considered necessary for the general understanding of the bead-types in India.

The value of beads as an aid to chronology is supposed to be very hypothetical. The emergence of various bead-types in different countries at different periods, the practice of wearing antique beads and again the smallness of the object which easily rolls, are some of the very serious handicaps in an independent study. But even these disadvantages I feel would easily be overcome when the modern archaeological methods reach the standard of scientific accuracy aided by a very accurate analysis of the various objects unearthed. These, at least would reduce the errors to a minimum for the closer understanding of the material culture in the evolution of mankind, which is one of the principal aims in archeology.

In the end it is my pleasant duty to acknowledge my gratitude to the University of Allahabad and particularly to Shri G. R. Sharma for the opportunity

¹This section of the report has been contributed by Dr. Moreshwar Dikshit, Nagpur University.

afforded to me to classify and study the rich material obtained from the excavations. I have also to record my cordial thanks to Dr. S. M. Katre, Director of the Deccan College Research Institute, Poona, for kindly allowing me to undertake this work. Dr. S. B. Deo rendered valuable assistance in the classification of the terracotta beads. Grateful acknowledgements are also due to the authorities of the various Museums in India and to several private collectors who ungrudgingly placed their material at my disposal.

2. ETCHED BEADS (pl. LXI, 3, 6, 15 and 28)

Amongst the carnelian and agate beads found on the site, eight are etched. The problem of the various patterns found on etched beads in India and their distribution has been exhaustively dealt with by me in a monograph¹. The commonest form at Kauśāmbī appears to be the barrel shaped one, decorated with a pentagonal pattern (pl. LXI, 15) of which four specimens have been recovered. All of these are of black agate, a material which gains preference on account of the contrasting effect of the white etchings against the black background. In point of date the earliest specimen was recovered from Sub-period III, about a century earlier than similar beads found at Taxila.² Two carnelian beads, both spherical in shape, are spotted (pl. LXI, 28). These are dated between first century B. C. and first century A. D. The antiquity of the pattern, on the basis of the beads obtained at Taxila, however, is traced back to the third century B. C.³ One multi-faceted bead, octagonal in section, (pl. LXI, 6) shows broad lines on each facet; the pattern also occurs on some imperfectly dated beads from Rairh.⁴ The present specimen, however, is dated about 150-100 B. C.

The earliest etched bead on the site is a small standard cylinder of carnelian decorated with a zonal band in the centre (pl. LXI, 3) and belongs to Pre-structural V.

3. BEADS OF CARNELIAN (pl. LXI, 1, 4, 5, 8-11, 13, 14, 18 and 27)

Carnelian beads, though only twenty-one in number, show a range of variety in form and in the technique of manufacture. The material is distributed in all the layers with a fair uniformity. Almost all the beads are perforated through both their ends⁵ so as to meet in a common axis. In certain cases, however,

¹ M. G. Dikshit, *Etched Beads in India*. Deccan College Monograph Series, no. 4 (Poona, 1949).

² H. C. Beck, *Beads from Taxila*. Mem. Arch. Surv. Ind., no. 65 (Delhi, 1941), pl. 11. 7.

³ *Ibid.*, pl. II. 16.

⁴ K. N. Puri, *Excavations at Rairh*, pl. XXXIII. 3.

⁵ The practice of boring holes from both ends is still current in the modern bead-industry at Cambay and therefore should not be regarded as a sign of antiquity, as is the common belief. Boring of holes, which is the last operation in the manufacture of bead, is generally carried out by persons who do not fashion or polish the beads themselves. With his bow-drill, an average worker is able to perforate nearly 120 beads per hour in Cambay.

the difficulty experienced in boring is exhibited by a small concave depression at one end of the bead, as a result of the fracture of the stone which possibly served as a base for the bow-drill used for perforation. Several of the beads are very highly polished but in some cases they have been left incomplete and unbored.

Amongst the forms, two beads are of special interest. pl. LXI, 5 is an animal pendant, shaped like a bull. This tiny specimen is worked with all the details showing the bi-partite horns and a large hump; the legs are unfortunately missing. The hole is bored across the body below the hump and above the forelegs and exhibits a very fine workmanship. This specimen is dated about second century B. C. The other specimen is a tiny oval-shaped bezel for a ring (pl. LXI, 4) and has an intaglio figure of an animal (possibly a lion). The treatment of the mane and the muscular body, together with the curved tail show great skill in its execution. Probably Hellenic in origin this signet was recovered from Sub-period VIII.

Bull shaped amulets are quite familiar in India, being found in Taxila,¹ Sahri Bahlol² and Kondapur.³ Besides the present specimen, two other pendants of this shape are also reported from Kauśāmbī⁴.

✓Amongst other shapes quite a large number (twelve examples) is spherical (pl. LXI, 13), and are distributed from Sub-periods I A to VI.

One of the examples (unillustrated) has a double-eye near the perforation. This bead is now fractured due to heating which has turned the original red tint into an opaque white substance resembling chalcedony. Barrel-shaped circular (pl. LXI, 18) is the shape of two beads recovered from Sub-periods V and VI. Long cylinder circular (pl. LXI, 11) is the shape of another well-made bead which is not very accurately dated. Long barrel-triangular (pl. LXI, 1), represented by a single example is noteworthy, as it represents one of the earliest shapes for beads in the ancient world.⁵ A flattened hexagonal cylinder bead (pl. LXI, 9) is also noteworthy.

Amongst the beads found in the lowest strata of the site is a particularly well-made bead, square barrel in shape (pl. LXI, 10) belonging to Pre-structural V. This shape is very common in the beads of the Mauryan period, a terracotta specimen of about the same period being found in Taxila. At Ahichchhatra the shape occurs amongst the beads found in the lowest levels (stratum IX). At Kolhapur this shape is frequent in levels assignable to second century B. C.

¹ Beck, *op. cit.*, pl. VII, 9.

² Three carnelian bull amulets from Sahri Bahlol are in Col. D. H. Gordon's collection.

³ Twenty bull-shaped terracotta amulets from Kondapur assignable to circa A. D. 200 are preserved in the Kondapur Museum. cf. M. G. Dikshit, *Some beads from Kondapur* Hyd. Arch. Series, no. 16, Hyderabad, 1952.

⁴ A crystal bull amulet is preserved in the Bharat Kala Bhavan, Banaras. while another in carnelian is in the collection of the Allahabad Municipal Museum.

⁵ This is the shape of some alabaster beads in the Tasian Culture, which is the oldest in Egypt. See Burnton, *Mostgedda and the Tasian Culture* (London, 1937). pl. XIII, 18 and pl. XXII, 27.

Multi-faceted beads are extremely rare in Kauśāmbī. One of the two specimens recovered from Sub-period VIII has the shape of a twisted pentagon (pl. LXI, 27). The red colour of the carnelian is tinted on the surface as a result of some heating. A hexagonal tablet-shaped bead (pl. LXI, 8) belonging to Sub-period V is a rare shape on the site, but the material lacks careful workmanship. Another shape available in this material is the barrel hexagonal (pl. LXI, 14) of which one fragmentary example was recovered from Sub-period V.

4. BEADS OF AGATE (pl. LXI, 2, 7, 12, 16, 17, 19, 20, 22-24 and 26)

Agate, both banded and plain, occurs from Pre-structural V to Sub-period VIII. Of these two varieties, the banded one is more popular. The beauty of the specimens and the care bestowed in selecting the material or the advantage taken of the natural bands in the shaping of these beads is noteworthy.

A larger majority of the beads are barrel-shaped circular (pl. LXI, 12, 17, 19 and 20). Occasionally these barrels are elliptical in transverse section (pl. LXI, 16). Two specimens are spherical in shape (pl. LXI, 2).

Amongst other forms represented regularly faceted beads are noteworthy. One specimen each, however, of the following types was obtained : lenticular tablet with grooved collars (pl. LXI, 23), truncated biconical tabular (pl. LXI, 7), biconical hexagonal (pl. LXI, 22), tiny barrel-shaped triangular in cross-section (pl. LXI, 26) and long cylinder circular (pl. LXI, 24). Of these, the last one is of good workmanship and has an unusually large perforation.

On the whole the tendency of preference towards faceted forms is more marked in the lower strata of the site, a feature which is common at Ahichchhatrā. The other forms, however, do not provide a guide-fossil for the various Periods represented on the site.

5. BEADS OF CHALCEDONY (pl. LXI 21, 25, 29 and 30)

Chalcedony beads range from Pre-structural IV to Sub-period VIII. Out of the nine beads recovered, five are spherical in shape (pl. LXI, 29), distributed in Pre-structural IV and Sub-periods V and VIII. Other forms include a tablet-shaped (pl. LXI, 30) from Sub-period III; square barrel (pl. LXI, 21) from Pre-structural IV; octagonal cylinder with chamfered ends (pl. LXI, 25) from an unstratified deposit.

The preference for faceted forms is also seen in the beads of this material.

6. BEADS OF CRYSTAL (pl. LXII, 32-35, 37, 38, 40-43)

Crystal was represented by nineteen beads. The shapes include : spherical long cylinder hexagonal (pl. LXII, 34); long cylinder hexagonal flattened

(pl. LXII, 38); barrel hexagonal (pl. LXII, 35); barrel hexagonal flattened at two ends; barrel hexagonal flattened at one end (pl. LXII, 33); twisted hexagonal with facets and convex circular (pl. LXII, 32).

The barrel hexagonal flattened at one end, represented only by three specimens, is a rare shape. It is noticed on some specimens, biconical in outline, from the Dharmarajikā Stūpa at Taxila, dated between first-fourth century A. D.¹ The Kauśāmbī examples are elaborately made and are much earlier in point of date. The surface of a clear convex barrel-shaped bead (pl. LXII, 32) appears to have been deliberately ground so as to have a "ground-glass" appearance.

Besides these commonly noticed forms, there are four crystal beads in the collection which deserve special mention.

Pl. LXII, 42 is a unique specimen, shaped as if two U-shaped lumps have been joined together. It belongs to Sub-period II. Amongst the beads from Maski there is one doubtful specimen of yellow glass resembling this shape but is not accurately dated. pl. LXII, 41 is a multi-faceted bead of exceptionally fine workmanship. The diamond shaped facets are very regular, and it is bored in such a way that 11/12ths of its total length is bored from one end, leaving a very insignificant portion to be perforated from the other end. This is evidently to avoid the fracture by the force of the vertical drill. It belongs to Sub-period III and considering its age it speaks highly of the lapidary's art. Pl. LXII, 40 is a convex barrel-shaped hexagonal bead, longitudinally perforated so as to form a toggle. This shape is somewhat unusual for crystal beads though exactly identical carnelian toggles are known from Rajghat. From a small depression at one of its conical ends, it would appear that the jeweller wanted to fashion it after the usual beads and subsequently changed it into an exquisite specimen. It belongs to sub-period I B. pl. LXII, 43 is a pendant prepared from amygdoloid quartz. The shape, however, is very commonly-noticed on several other sites in India.

7. A BEAD OF GLAZED QUARTZ (pl. LXII, 44)

There is only one bead of glazed quartz amongst the present collection. This bead is a collared barrel, elliptical in transverse section, and has a glazed surface. A number of cross strokes are hatched on the body while the collars are fashioned by deep grooves. It belongs to Sub-period VI. Exactly identical specimens are known from Bhita and Rajghat.² The two specimens from Taxila published by Beck³ apparently belong to the same type and are of the same age as the present specimen. In the South, identical beads are found at Maski and at Kondapur, the latter being dated about A. D. 200.

¹ Beck, *op. cit.* (1941). pl. V, 28.

² Now displayed in the Lucknow Museum and the Bharat Kala Bhawan, Banaras.

³ Beck, *op. cit.* (1941). pl. V, 1 and 2.

8. A BEAD OF YELLOW QUARTZ (pl. LXII, 45)

A single pendant (pl. LXII, 45) of yellow quartz, manufactured from a amygdoloid crystal perforated at the top, was found during the present excavation. The material is very transparent and of a very good quality. This specimen belongs to Sub-period VII. Identical specimen prepared from unworked crystals were recovered from the lowest levels at Ahichchhatra, attributed to a period before 300 B.C., Patnā, Rājghat, Masaon Dih, Ghosi and Chirayya Kot.

9. BEADS OF GARNET (pl. LXII, 46-48)

This material is represented by four beads comprising a tiny circular tablet (pl. LXII, 46) from surface collection, a spherical from Sub-period III, a biconical hexagonal (pl. LXII, 47) from Sub-period IV, and a biconical circular (pl. LXII, 48) from Sub-period I B. Of these, excepting the spherical, all shapes are rather unusual for this material. Analogies for the biconical hexagonal are present at Sirkap¹ while that of the biconical circular at Bairant near Banaras.

10. A PENDANT OF AMETHYST (pl. LXII, 49)

The present excavation yielded a single pendant (pl. LXII, 49). The shape is quite common, several identical specimens from Kauśāmbi being preserved in the Allahabad, Lucknow and Patna Museums. This form is also repeated in crystal and yellow quartz pendants described above. The present specimen belongs to Sub-period IV.

11. A BEAD OF BLUE STONE (pl. LXII, 50)

One light blue coloured quartz bead (pl. LXII, 50) was obtained from the present excavations. Prof. L.V. Agashe, Professor of Geology, College of Engineering, Poona, identifies this material as impure amethyst. It is an almond-shaped bezel for a ring and belongs to Sub-period VIII or Sub-period VII. From Maski about twenty-eight such beads were found; they are 4 in. long and shaped like miniature palaeolithic hand-axes, a unique shape for Indian beads.

12. BERYL (pl. LXII, 51 and 52)

Beryl or aquamarine is the material for three rare beads. The stone used is of a very high quality, and all the beads are extremely well-finished and carefully-polished. All of these are confined to the Sub-period II and III.

Pl. LXII, 51 is a tiny short biconical hexagonal tablet from Sub-period II. Beads of this shape are quite common at several ancient sites in India. In Taxila,

¹ Beck, *op. cit* (1941). pl. VI. 31.

quartz specimens of this shape are attributed to about first century B. C.¹ At Kumrahar and Lauriya Nandangarh, the shape is represented in amethyst² while at Masaon Dih it occurs in green jasper and crystal and at Bhita in crystal. The shape is also present amongst the beads found in the reliquary from the Piprawah Stūpa.³ In the South, crystal beads of this shape have also been reported from Kondapur, Arikamedu, Mahurjhari, near Nagpur and from the reliquaries in the Buddhist stūpas at Sopāra, Nāgarjunikoṇḍā and Bhattiprolu.

Pl. LXII, 52 is a flattened hexagonal cylinder from Sub-period III. Another unstratified bead from the present collection is barrel-hexagonal-flattened.

13. BEADS OF JASPER (pl. LXII, 44-49)

Jasper is represented by five specimens of red and two of green variety. Of the former two are spherical (pl. LXII, 54) from Sub-periods I A and VIII. The remaining three are represented in (a) truncated biconical hexagonal (pl. LXII, 55) from Sub-period V, (b) cornerless cube (pl. LXII, 56) from Sub-period V and (c) an unusual lense-shaped fragment of a circular disc (pl. LXII, 57) from Sub-period II.

Cornerless cube is a universal shape for red jasper beads, being known from Warangal, Kondapur, Maski, Arikamedu and Chandravalli in the south and from Rajghat, Chairayya Kot, Ghosi, Patnā and Bhīṭa in the north.

The lens-shaped fragment was a large circular disc broken anciently and reused as a bead by perforating a hole through it.

Beads of green jasper though scantily represented in the present excavations, are seen in fair abundance in the collection of the Allahabad Museum. The commonest shape amongst these is the twisted pentagonal bicone (pl. LXII, 58) from Sub-period III found on several sites in India. The type is available at many sites both in south India and the Gangetic valley where it continues for a very long time. The other specimen of this variety is circular tablet (pl. LXII, 59) from Sub-period VI. It is highly polished and carefully-made. Blood-stone or heliotrope is absent in the specimens from Kauśāmbī known to me.

14. BEADS OF LAPIS LAZULI (pl. LXII, 60-62)

Lapis lazuli, which is an imported material in India, is represented by seven examples and is confined to the upper levels. The range of shapes include standard barrel-circular (pl. LXII, 60) from Sub-period V, spherical with their sides obliquely cut in such a way that a number of these worn in a necklace would form a circle (pl. LXII, 61) from Sub-periods VI and VIII and disc-shaped circular (pl. LXII, 62) of deep blue colour from Sub-period VIII.

¹ Beck. *op. cit.* (1941) pl. V. 12.

² Cf. *An. Rep. Arch. Surv. Ind.* 1934-35. p. 65. pl. XXII. k-n.

³ *Jr. Roy. Asiat. Soc.* (1898). pp. 537 ff.

15. BEADS OF FAÏENCE (pl. LXIII, 63-66)

Faïence¹ is a term commonly applied to a pottery-like product, in which quartz grains are fused together with an enormous quantity of lime. It was a very popular material in the ancient world and beads and other objects made from it are known as early as 2400-1800 B. C. in the Harappa civilization. Faïence beads were extensively used throughout India till about the fifth century A. D. after which the material seems to have lost its appeal.

During the present excavations, faïence was used for fourteen beads. With the exception of two which are white, all the specimens are either green or covered with a green glaze. These beads were prepared from moulds. The range of shape includes : short barrel (pl. LXIII, 63), the cornerless cube (pl. LXIII, 64), long barrel circular (pl. LXIII, 65) and long cylinder hexagonal (pl. LXIII, 66).

The most popular shape, however, is the cornerless cube represented by as many as five beads all of which show patches of fine green glaze. Though this shape starts fairly early at Kauśāmbī in Sub-period III, the occurrence of similar beads in stratum IIIc (A. D. 450-500) at Ahichchhatrā indicates that the type had a fairly long life in the Gangetic valley. The Sātavāhana sites in the Deccan show a preference for globular, barrel-shaped collared and gadrooned beads of faïence, cornerless cube being absent at Kondapur, the typical Sātavāhana site.

At Charsadda, near Peshawar, sixtytwo cornerless cube beads of this material were found in Room 1 at the Mir Ziyarat site and were attributed to about first-third century A. D.² The shape, however, is not known at Taxila.

16. BEADS OF SHELL (pl. LXIII, 67-75)

Shell is the material for seventeen beads including two of mother-of-pearl. The central columella of a conch (*śaṅkha*) is used for as many as five beads of short cylinder variety (pl. LXIII, 67) from sub-periods II-V. Disc-beads with optical lens-shaped profile (pl. LXIX, 68) are represented by two beads, from Sub-period VII. Other shapes include (a) flat lenticular disc (pl. LXIII, 69) (two examples) from Sub-periods II and VIII, (b) cylinder tubular (pl. LXIII, 70) (one example) from Sub-period VIII, (c) flat circular lug collared (pl. LXIII, 71) (one example) from Sub-period VIII, (d) barrel gadrooned (pl. LXIII, 72) (one example) from Sub-period VI, (e) circular tablet (pl. LXIII, 73) (one example) from Sub-period IV, and (f) rectangular lenticular (pl. LXIII, 74) (one example) from Sub-period IV. The last-named four varieties are rather rare shapes in this material.

¹ In the excavations at Kolhapur, faïence beads were fairly numerous in the levels attributed to the Sātavāhana period (200 B. C.—200 A. D.) and occurred sporadically in the disturbed layers of the post-Sātavāhana period. Their popularity during the Sātavāhana period in the Deccan is evidenced by the large quantity of such beads at Kondapur, Karad, Nasik, Paithan, Chandravalli and other places. At Arikamedu, only a few beads of faïence are known.

² *An. Rep. Arch. Surv. Ind.* 1902-03, pl. LXXVIII, 64.

The two mother-of-pearl beads are both flat circular disc (pl. LXIII, 75)) and belong to Sub-period V.

Cornerless cube, irregularly formed, is the shape of another bead recovered from Sub-period IV.

17. BEADS OF BONE (pl. LXIII, 76)

Bone comprised material for six beads, all spherical in shape (pl. LXIII, 76) and turned on a lathe. They occur, one each, in Sub-periods I A, I B, III, IV, V and VIII.

18. ✓ BEADS OF SUNDRY STONE ((pl. LXIII, 77)

Amongst the sundry stone beads found on the site are small short cylinder beads of steatite from Sub-period V and a rectangular panel bead of serpentine¹ (pl. LXIII, 77) from Sub-period III. One of the longitudinal faces of the bead is plain while on the other are carved cord-like vertical rows in relief in zonal bands. Considering the softness of the stone, the firmness of the incised lines is remarkable. This material is also represented by a tiny pendant found at Ahichchhatra, showing a pregnant woman covering her eyes.

19. BEADS OF COPPER

Of copper four beads are recorded from the excavation variously from Sub-periods I A, VI and VIII. They are represented in two shapes, cylinder or spherical. The latter being the earlier. They are prepared either by beating the metal or folding the metal sheet.

Heavy spherical beads of copper are also found at Ahichchhatra.

20. A BEAD OF GOLD (pl. LXIII, 78)

Gold accounts for only one bead found heavily crushed in Sub-period I A. The metal when tested on the touchstone showed about 2 percent silver of alloy. The shape of the bead is completely deformed. But small repoussé circular elevation at one end of the bead and the rounded outline at the terminal show that it was probably a cylinder bead. The other end, however, is shaped in such a way as would be formed by a square cylinder bead. This end also has a circular repoussé elevation near the perforation which makes circular cylinder as the most likely shape. Experiments with a small gold tube showed that it is possible to have regular ends by crushing the tube twice, which must have happened in the case of the present specimen. No lac or any other material was found inside the bead which was probably intended to be hollow. When intact the bead measured about 3/4 in. in length and about 1/6 in. in diameter.

¹ Identified by Prof. L. V. Agashe.

21. BEADS OF GLASS (pl. LXIII, 79-89; LXIV, 90-102)

Glass beads numbered nearly five hundred and ten. In the technique of their manufacture, wound beads constitute nearly half the total. Cane beads also occur in a fair quantity but moulded ones are comparatively fewer in number. The larger number of these beads is opaque. The glass is generally of a good quality but on account of corrosion several beads have been crushed to powder. The colours represented include, blue, blue-green, green, black, copper-red, yellow and violet, yellow and violet being extremely rare. The blue glass beads are occasionally found to contain a large number of impurities which float like red and purple mast in the glass and without destroying some of them it is difficult to state whether they contain ferruginous matter. The colouring agent for most of the beads seems to be copper and its oxides; cobalt being used for a fewer specimens. A typical orange-coloured glass on examination proved to be devitrified glass. Nearly all the beads seem to be of local manufacture, evidenced by a large number of unfinished and unbored specimens. There are, however, a few examples which seem to be imported but these are comparatively few in number and show a technique which is wholly different from that of the local glass beads. In particular I refer to the gold-foiled glass beads in which a layer of gold-foil is placed over the core and covered with a transparent glass. The blue glass beads swirled with a white opaque layer in them also appear to be distinctive and are probably of a foreign type.

Glass beads range from Pre-structural II to Sub-period VIII. The beads from the lower strata are naturally few, but the narrowness of the pits in a controlled vertical excavation may account for their limited number. The glass in the lower levels is generally of a better quality than in upper strata where the necessity for mass production is evident from the number of the common types. Two iridescent glass beads (pl. LXIV, 92 and 98) deserve a special notice since their technique is altogether different from any of the other glass beads found on the site.

A. ✓ BLUE GLASS (pl. LXIII, 79-87)

Quite a large number of beads are of blue glass in various shades ranging from a deep-cobalt to a pale-blue tinge. These are mostly from canes and are fire polished. They range between Sub-period IV and VIII and are represented in (a) oblate (pl. LXIII, 79) from Sub-period VI; cornerless cube (pl. LXIII, 80) from Sub-period VIII; bicone circular (pl. LXIII, 81) from Sub-period V and cylinder tube (pl. LXIII, 82) from Sub-period VI. This last shape seems to have been very popular in India, both in the north and the south. Beads of this shape, attributed to the śatavahana period, have been found at Kolhāpur, Kondāpur, Nasik, Chandrāvalli, Arikamedu, Paithan, Karād, Maski and Kadkal in the south and at Ahichchhatra, Bairant, Ghosi, Mason Dih, Bonidi, Patna, Chirayya Kot and Azamgarh in the north. Most of the beads are attributable to circa 200 B. C. to

third century A. D. At Kondapur this shape is represented by no less than thirteen different materials, like carnelian, agate, chalcedony, crystal, yellow quartz, shell, lapis lazuli, bone, faïence, terracotta, etc.

Twenty-one beads appear to have copper as the colouring agent. Of the shapes represented, medium and tiny oblates are more common. The latter comprises very small annular or oblate beads generally known as *pota* in Marathi. It is significant to note that Hemchandra, the well known writer of the Twelfth century A.D. in his *Desi-nama-mala* gives *potta* as a synonym for glass in general (cf. *Desi-nama-mala*, VI, 60) and this general name for glass have now been accepted as a special term for very tiny beads.

Besides these usual shapes, other forms include (a) cornerless cube, moulded (pl. LXIII, 83); (b) long cylinder square mould (pl. LXIII, 84); (c) spherical mould (pl. LXIII, 85); (d) circular tablet-shaped (pl. LXIII, 86); (e) long cylinder hexagonal (pl. LXIII, 87); (f) barrel collared; and (g) standard cylinder, circular. All these beads are of common shapes and have no technological or historical interest, since most of the common methods were used in their manufacture. Glass beads have been known in the fifth century B. C. at Taxila¹.

B. BLUE GLASS WITH A LAYER IN BETWEEN (pl. LXIII, 88)

A special variety of blue glass beads found on the site is particularly noteworthy. The glass is deep cobalt-coloured blue, in which a white layer² of another glass resembling porcelain is inlaid. The transparency of the blue shows that the white layers are invariably arranged, placed in such a way that these reach the core from the surface at various depths. Eight such beads have been found in the excavations but quite a large number exist in the surface collections preserved in different Museums. The type represented is the short cylinder square LXIII, 88) from Sub-periods V-VII.

Beads of this type have been found on several other sites in India. At Kolhapur they occur in layers attributed to the Sātavāhana Period (200-B. C.—A. D. 200)³. They are also found at Chandravalli. Beads showing identical technique but with different shape have been noticed at Kondapur. A similar bead also occurs in the Foote Collection in the Madras Museum but the provenance is unknown. In central India such beads have been reported from Ujjain (displayed in the Gwalior Museum). Blue glass beads with white zones are also known from the megalithic burials near Sulur in the Coimbatore district.⁴ Outside India an exactly identical bead from Sarawak has been published by Beck.⁵

¹ Beck, *op. cit.* (1941), p.21.

² Analysis of this white glass shows that the colour is due to tin-oxide.

³ H. D. Sankalia and M. G. Dikshit, *Excavations at Brahmapuri* (Kolhapur), 1945-46 (Poona, 1952), pl. XXIX.

⁴ *Man* (1930), 134.

⁵ Beck, 'Sundry Asiatic Beads', *Man* (1930), pl. K 26.

From the above distribution the type appears to be very popular in the early centuries preceding the Christian era.

C. BLUE GLASS WITH WHITE STRIPES (pl. LXIII, 89)

Only one example of this material was recorded. It is spherical in shape and shows a white opaque line put across its body in a zonal band and is marvered. The specimen is not accurately dated and may belong to Sub-period VIII.

D. DEEP BLUE GREEN GLASS

The beads of this colour are opaque, mostly large-sized globular made from canes of copper glass. They belong to a period between first century B.C. and A.D. 100. The other shape met with in this material is the short oblate, ranging between Sub-periods IV and VIII.

E. GREEN GLASS (pl. LXIV A, 90-96)

This variety of beads are opaque, large-sized globular, made from canes and fire-polished and range from Sub-periods III to VIII.

Other shapes represented are (a) cornerless cube (pl. LXIV A, 90) (two examples, one moulded and the other folded) from Sub-periods V and VI; short cylinder disc (pl. LXIV A, 91) (two examples) from Sub-periods V and VIII; flat oval tablet (pl. LXIV A, 92) (one example) from Sub-periods V; long barrel circular (one example) from Sub-period V and a short bicone disc (one example) from Sub-period V.

The most interesting beads, however, are the two highly iridescent specimens, of pale green glass, which shows through the iridescence and flakes off when rubbed. One of them is flattened hexagonal cylinder from Sub-period IV while the other is long bicone hexagonal, regularly faceted (pl. LXIV A, 93) from Sub-period II and is the only large-sized glass bead from the lower strata of the site.

Transparent green glass is represented by quite a large number of small unpierced balls found on the site. About eleven specimens were obtained in the present excavation. They are either spherical (pl. LXIV A, 94, 95) (two examples) from Sub-periods VIII and II respectively, though the latter specimen shows numerous air bubbles or standard barrel (pl. LXIV A, 96) (two example) from Sub-period I A. Both the specimens have very large perforations and numerous attrition marks on one end, it is doubtful if these large beads were intended for ornamenting the body.

Convex tablet with a tapering top is the shape of five folded beads occurring in Sub-periods V and VII. The glass is full of bubbles and the pierced instrument

leaves a burred edge in one of the ends of the bead. The glass is pale green in colour, transparent and coloured with copper.

F. BLACK GLASS (pl. LXIII A, 97)

Beads of opaque black glass occur in very small quantity (eight examples) on the site in comparison with the large number of green and blue glass beads. These are mostly wound beads and range between Sub-periods V and VII. The shapes do not show much variety, and are confined to spherical (pl. LXIV A, 97) and oblate except a small cylinder bead. The smallest bead measures about 1/10 mm. in diameter. Their occurrence is limited to the upper layers between Sub-periods V and VIII. The illustrated specimen has a small applique band on its spherical body. Similar beads occur frequently on sites both in north and south India. Unfortunately, however, they have very little or no dating value as their range is very wide.

G. BLACK GLASS WITH RED STRIPES (pl. LXIV A, 98)

Amongst the black glass beads there are a few (five examples) which have dark red longitudinal stripes at irregular intervals. They occur between Sub-periods I B and IV and are oblate in shape (pl. LXIV A, 98) and have been made from long canes and cut with sharp instruments. The red opaque layer does not penetrate into the core of the bead but is laid at the surface only.

This kind of glass is already known from Sirkap (Taxila), where such striped glass beads have been dated to the first century A. D.¹ Other sites where beads of this material have been found include Kumrahār, Bulandibāgh, Mason Dih and Rajghāt.

H. COPPER RED GLASS (pl. LXIV A, 99)

This material is represented by two specimens. This, however, may be purely a coincidence for quite a large number of beads of this material are included in the collection of the Allahabad Museum. Besides this has a very wide distribution throughout India, notably at Kumrahār, Rajghāt, Mason Dih, Ghosi, Āzamgarh and Taxila² in north India. A very large collection of beads of an identical glass was made by Mr. E. F. O. Murray in the Dhalbhum Pargana in Bihar.³ In the south, this glass is found among the beads from Kolhapur, Ujjain, Paithan, Nasik, Maski, Kondapur, Chandravalli, Arikamedu and in the Foote collection at the Madras Museum. Normally the specimens are quite large, but the beads from Kauśāmbī are extremely small, the smallest being about .05 mms. in diameter. The two specimens are tubular and oblate (pl. LXIV A,

¹ Beck, *op. cit.* (1941), pl. I, 26.

² In the collection of the Indian Museum, Calcutta.

³ Author's collection (for this and subsequent references to Dhalbhum Pargana).

99) respectively and are cut from long tubes. The latter which belongs to Sub-period IV is made from long canes, so familiar among the glass beads from Arikamedu and is unperforated. The former is from Sub-period VII.

I. ORANGE GLASS

A variety of red-orange glass, opaque and dull in appearance, is represented by the seven beads found on the site. The glass with copper as its colouring agent and generally known as devitrified glass is found on several other sites in India, notably at Taxila (collection of the Indian Museum, Calcutta), Ujjain (collection of the Gwalior Museum), Dhalbhum Pargana and at Patna. The commonest shape is the small annular, cut from longer tubes. Eight out of nine beads found at Kauśāmbī are of this shape. They occur in Sub-periods V and VII. The singular exception is a fragmentary globular bead made of wound glass and recovered from Sub-period VI.

J. GOLD-FOIL BEADS (pl. LXIV A, 100 and 101)

These are a special type of glass beads in which a layer of gold foil is applied to the already prepared matrix when the glass is hot and finally coated over with a transparent layer of clear glass. As the foil used is not a good cementing material, the tendency to break is usually noticed at the foil layer, and several of the beads recovered in fragments. Amongst the beads sent to me all the beads are thus badly crushed and the shapes of only a few can be determined with certainty. Pl. LXIV A, 100 is a long cylindrical tube, cut from a larger cane and separated by a sharp instrument leaving rounded ends at either of its sides. It belongs to Sub-period III. Another bead, probably a spherical one from Sub-period IV, is treated in the same way. Three specimens of this shape and belonging to the same Sub-period were found crushed. Pl. LXIV A, 101 is a large spherical bead-fragment from Sub-period V. The beads seem to be in popular demand during the early centuries of the Christian era.

Beads with inlaid gold-foil occur at Kolhapur, Nasik, Kondapur,¹ Chandravalli,² Arikamedu,³ Maski,⁴ Karād,⁵ and are generally distributed in the Satavāhana layers assignable to *circa* 200 B.C.-A.D. 200. In the north, they occur at Bhītā,⁶ Patnā,⁷ Mason Dih,⁸ Ujjain,⁹ and Ahichchhatra.¹⁰

¹ M. G. Dikshit, *op. cit.* (1952), pl.

² Beads in the Mysore, Museum.

³ Beads in the Bibiotheque at Pondicherry.

⁴ Beads in the Maski Museum.

⁵ *Explorations at Karād* (Poona, 1950), pl. XI. 5-6.

⁶ *Jr. Roy. Asiatic Soc.* 1911. p. 131.

⁷ Beads in the Patna Museum.

⁸ Beads in the Bharat Kala Bhawan, Banaras.

⁹ Beads in the Gwalior Museum.

¹⁰ M.G. Dikshit, 'Beads from Ahichchhatra, U. P.', *Ancient India*, no. 8 (1952),

The technique which has a wide distribution in other parts of the world as well is said to have been invented by the Romans. Beck, the well-known authority on ancient beads, comments on these beads as follows :

“One of the most distinctive types of beads found here are some of transparent glass in which is a layer of gold leaf. These have been made in cane and notched by pressure when hot, so that they could easily be broken off. Such beads have been found in Java and are common in Egypt and Syria where they are called Roman. This, however, is not a suitable name as they were made over a long period, being found amongst the *La Tene* beads in Corsica several centuries B. C. and among the Danish beads in York which date to 9-10th century A. D.”¹

As clay *bullae* imitating Roman coins have been reported from Kauśāmbī² and in the neighbouring areas like Rajghat, it is comprehensible that the gold foil beads were an imported item.

K. YELLOW GLASS (pl. LXIV A, 102)

Sulphur-coloured yellow glass is represented by only two beads obtained from Sub-periods V and VI. One of these is a slightly deformed oblate (pl. LXIV A, 102) consisting of a wound wire. Corroded fragments of another have an indeterminate shape. Though yellow glass is found amongst some of the earliest glass beads in India found on the Bhir Mound at Taxila, dated about fifth century B. C., it is surprising to see that it is so scantily represented at Kauśāmbī, nor is there seen any specimen in surface collections of the Allahabad Museum.

L. VIOLET GLASS

Violet-coloured glass is similarly very scantily obtained on the site. Only one bead was recovered from the excavation and there are only a few specimens in the Allahabad Museum. The excavated specimen from Sub-period VII is a cane glass cylinder, notched at either end to form collars. The material is full of impurities. This kind of glass is very extensively employed for beads at Arikamedu and is also represented by a few not accurately dated specimens at Kondapur.

22. BEADS OF TERRACOTTA (pl. LXIV B, 103-116; pl. LXV, 117-26)

Beads made of a hard burnt clay constitute the largest number of beads recovered from the excavation indicating the great popularity of this material. While stone and glass beads were meant for the rich and the well-to-do, terracotta was greatly in demand by the poor. The plasticity of the material for any form to suit the taste of the masses was another factor in its popularity. A great

¹ Beck, *op. cit.* (1930).

² *Ancient India* no. 5 (1949), pp. 101-03.

diversity in the forms is, therefore, noticed in the beads of this material. Alluvial clay which was abundantly available at Kauśāmbī formed the best medium for the plastic art. These beads, numbering upward of six hundred, are distributed in all the layers. The large number of specimens found in each stratum enables us to determine with some precision the approximate dates of certain types. They are found more in the upper layers than in the lower. The frequency distribution shows that their main concentration was between Sub-periods III and V.

The most predominant type amongst this class of beads is the pear-shaped with a truncated apex, here called the areca-nut type on account of the size and shape to which it resembles most. Turned on a fast wheel and produced perhaps on a mass scale, this type is one of the commonest found in India, being noticed on almost every ancient site. The specimens at Kauśāmbī, about one hundred eightyfour in number, are extremely well-baked and are without any slip. The perforations are generally very large and regular. They are distributed between Sub-periods I A and VII. The distribution at Brahamagiri where similar beads were also found, indicated that the type did not appear on the site till after the advent of the Āndhras, a period of their affluence at Kauśāmbī. At Nasik and Kolhapur the antiquity of such beads cannot be traced beyond 200 B. C. Similar beads at Kondāpur are dated A. D. 200 although the stratification is imperfectly recorded while at Karād these were found in association with early Śātavāhana coins of *circa* 150 B. C.¹ In the north, Ahichchhatra provides a corroborative evidence of their early origin, being found in stratum VIII and upwards. At Taxila such beads are recorded from Sirkap.² It is not known, however, whether they have been found at the Bhir Mound too. From the foregoing evidence, it would appear that the areca-nut shaped bead had its origin in the north from where it travelled to the Deccan and the south.

Alongside this shape another variant with a tapering top and two incised grooves near the rounded base, is met with. These have their butt-ends slightly pressed in and occur in the uppermost layers belonging to Sub-period VI. The lateness of this feature is also noticed in the beads from Brahmagiri.³ Another variant, without the grooves, however, is a common type on the site, being represented by as many as eight specimens ranging between Sub-periods III and VII. Still another variant has a broader carinated base and a shorter stem and is represented by two specimens from Sub-periods V and VIII. It is this pot-like appearance that introduces us to the characteristic *ghaṭa*-shaped beads described below.

A collateral type is shaped like an Indian water pitcher or *ghaṭa* and is described here as the *ghaṭa*-shaped. Beads of such type are fashioned by incising a small collar-like groove at one end of a short barrel-shaped bead so as to give

¹ *Explorations at Karād, op. cit.*, pl. XI B, pp 19 and 25.

² A Ghosh, 'Taxila (Sirkap), 1944-45' *Ancient India*, no. 4 (July, 1946—Jan. 1948). pp. 33-35 and pl. XI.

³ cf. *Ancient India*, no. 4, *op. cit.*, p. 265, pl. CXX, 44

the effect of a rim of a carinated pot. The perforations are invariably very large. The range of this shape is between Pre-structural II and Sub-period VIII. In the lower strata, the shape corresponds to the true *ghaṭa* in having a well-carinated body and a short tapering edge turned into the rim by a deeply incised groove and in the upper there is a marked tendency to more degenerate forms in which the carinated form of the body is lost and a flatter base is produced. The various forms are illustrated by a few selected example (pl. LXIV B).

The form obtained in the upper strata has also been obtained from Bhīṭā,¹ Chirayya Kot,² Ujjain,³ Mason Dih,⁴ Taxila,⁵ Ahichchhatrā,⁶ Shāh-jī-kī-Dherī in Peshawar,⁷ and Rairh.⁸

Variants of this shape are found amongst the beads from Kondapur,⁹ Chandravalli,¹⁰ and Brahmagiri.¹¹ The shape is represented in other materials as well.¹²

Six varieties of the *āmalaka*-shaped beads are met with. They are as follows :

1. *Āmalaka*-shaped (pl. LXIV B, 106 and 112) (two examples) from Sub-period IV. The specimens are of black clay and wheel-turned.

2. *Āmalaka*-shaped, lug-collared, and with broad gadroons (pl. LXIV B, 107, 108 and 110) (three examples) from Sub-periods VI and VII. The specimens are wheel-turned and very well-made.

3. *Āmalaka*-shaped, lug-collared but with narrow gadroons (pl. LXIV B, 103 and 105) (two examples) from Sub-periods V and VI. These are of a pale grey colour and wheel-turned.

4. *Āmalaka*-shaped, lug-collared, with oblique narrow gadroons (one example) from Sub-period IV. It is of black ware. The gadroons appear to be hand-finished.

5. Same as no. 4 above but with granulated surface (pl. LXIV B, 104) (one example) from Sub-period VIII. The specimen shows a fine workmanship and is wheel-turned. The granulated surface is achieved by a very sharp instrument dividing the surface in small oblong squares.

6. Milled, without collars (pl. LXIV B, 109) (one example) from Sub-period V. It is made from a long lump of clay separated by cutting it across with the milled edge fashioned in a very crude manner.

¹ Beads in the Lucknow Museum.

² Beads in Shri Nath Shah's collection, Banaras.

³ Beads in the Gwalior Museum.

⁴ Beads in the Bharat Kala Bhawan, Banaras.

⁵ Beck, *op. cit.*, pl. X, 11, also *Ancient India* no. 4. *op. cit.*, pl. XI, 43-46.

⁶ M. G. Dikshit, *op. cit.* (1952), pp. 62, 63.

⁷ *An. Rep. Arch. Surv. India*, 1910-11, pl. XVI, d.

⁸ K. N. Puri, *Excavations at Rairh*, (Jaipur.) pl. XXIII, 38.

⁹ Dikshit, Some beads from Kondapur *op. cit.* (1952)

¹⁰ Beads in the Mysore Museum.

¹¹ *Ancient India*, no. 4, pl. CXX, 45 (in steatite).

¹² Crystal specimens are known from Patna, Chirayya Kot, Arikamedu. At Bodh-Gaya, alabaster specimens of a long tapering shape are found. Cunningham, *Mahabodhi*, pl. XXII, 28.

As seen from the above distribution these beads are mostly confined to the upper strata of the site. *Āmalaka*-shaped beads have a wide distribution. Gad-rooned beads with lug collars are noticed in Kondapur, Ahichchhatra, Rajghat, but the specimens at Kauśāmbī are not so well-finished as the ones from Kondapur or Rajghat. The shape with granulated surface has analogies in green faience at Taxila¹ and Patna.¹

Cylindrical tubular beads are very rare, only three specimens being recorded. These, each measuring about $\frac{3}{4}$ in. in length, are made on wheel out of a blackish clay and occur in the upper strata of the site between Sub-period VI and VIII.

A sub-variety if the tubular form is reel-shaped, which is distinguished from the former by the stumpy appearance and the smaller perforations. The cylindrical shape has sometimes a concave profile. These types of beads, only three in number, are also confined to the upper strata. One of them has blurred edges while another shows seven pecked dots around the perforation at one end and the third has raised beads collars at either ends, fashioned by hand.

Spherical beads, large and small, occur in all the strata. Roughly fashioned by hand but very hard-baked, these beads occur between Sub-periods II and VIII. A single specimen of biconical circular bead, hand-made and deformed, was also found in Sub-period I A.

The most interesting variety of terracotta beads is represented by five pinched specimens (pl. LXIV B, 111, 113-16) from Sub-periods V, VII, III and V respectively. These are made by taking lumps of clay and fashioning them into faceted beads by pinching. The primary form in case of nos. 111 and 114 is the cornerless cube with the edges of the facets made by hand leaving a small depression in the centre of each facet. In the case of no. 116, a twisted pentagon with intermediate facets is the primary shape, but the edges in relief give it an elegant appearance which would have been lost in the flat surfaces of the facets. No. 113 is roughly fashioned into a fluted bead with four facets but is very much deformed. No. 115 is a twisted hexagon with very deeply impressed facets.

All these forms are noticed amongst the terracotta beads of comparable period found at Kondapur.² So far as I know, this shape is not repeated elsewhere. At Kondapur these pinched beads were abundantly found in a potter's workshop.

Other noteworthy shapes in beads and pendants include : (a) rough cube, perforated from all sides in the centre of each face (pl. LXV, 117) (one example) from Sub-period IV. Its purpose as a bead is doubtful; (b) large tapering conical truncated at top (pl. LXV, 118) (one example) from Sub-period IB. This may have been used as a stopper for narrow-mouthed jars also. Similar stoppers are quite abundant in the excavations at Nasik; (c) pendant with a tapering top and a heavy bulb at the bottom (pl. LXV, 119) (one example) from Sub-period VIII. Hand-made, grey ware pierced with a sharp instrument leaving a burred edge on one side; (d) claw-shaped with medial ribs and central perforations

¹ Beck, *op. cit.*, (1941) pl. X, 2 and 3.

² Beads in the Patna Museum.

(pl. LXV, 120) (one example) from Sub-period VIII. It was probably a terminal bead of a girdle (*mekhla*); (e) bird-shaped (pl. LXV, 121) (one example) from Sub-period III. The back is incised with lines in imitation of out-stretched wings and a tail. The mouth is shaped by hand and the eyes are deeply pierced; (f) pendant about 1 in. in length, decorated on one side only (pl. LXV, 122) (one example) from Sub-period VI. The top is decorated with six vertical flutes and four horizontal bands, while the underside is plain, the end being conical. Probably-moulded, black ware; (g) pendant, bird-shaped, with horizontally perforated lugs (pl. LXV, 123) (one example) from Sub-period VIII. This shape is known as *kuyari* in Marathi. A similar pendant in shell from Kadkal, former Hyderabad State, is preserved in the Museum of the Deccan College Research Institute, Poona. Another one, also of shell, comes from Nasik, and is in the author's collection, both being surface finds; (h) wheel-shaped (pl. LXV, 124) (one example) from Sub-period VI. It is badly pierced but very well baked. The hubs are fashioned by the finger nails; (i) pendant decorated on one side with incised lines imitating *tri-ratna* (pl. LXV, 125) (one example) from Sub-period V; (j) tortoise-shaped spacer bead (pl. LXV, 126) (one example) from Sub-period VI. Moulded, with broken head, black ware and hard baked.

Of these nos. 121, 125 and 126 deserve special mention. The bird is a very common motif on beads and amulets. A bird-shaped jade bead from Rajghat is preserved in the Central Asian Antiquities Museum, New Delhi. Six carnelian bird-shaped amulets have also been recovered from Sahet-Mahet.¹ Two carnelian bird amulets occur in the reliquary of the stūpa at Piprawah.² Bird-on-tree is the motif of a decorated carnelian bead found in the Bhir Mound, Taxila.³ Bird-beads in chalcedony, garnet, shell, green glass and faïence have been found at Sirkap and the Dharmarajika stūpa of Taxila.⁴ A rook-shaped carnelian pendant is known from the excavations at Manikyala.⁵ Hamsa-shaped pendants of crystal have been found at an ancient site near Baoti Pind.⁶ Three bird-shaped pendants from Sahri Bahlol are in the collection of Col. D.H. Gordon.⁷ A peacock-shaped pendant of green jasper from Kauśāmbi is included in the collection of Shri Janeshwar Das of Allahabad. These stone specimens, distributed in the north-western part of India and in the Gangetic valley are so far unknown in south India but inadequate exploration may as

¹ *An. Rep. Arch. Surv. Ind.* 1910-11, p. 15. pl. XII, b.

² *Jr. Royal, Asiatic Soc.*, 1898, p. 869; also beads in the Indian Museum, Calcutta.

³ Beck, *op. cit.* (1941) plVII, 14.

⁴ *Ibid.*, pl. VII 17 and 19-21.

⁵ Conningham, *Arch. Surv. India Rep.* IV, pl. IV, 9.

⁶ *Ibid.* II p. 142.

⁷ Dikshit. *Some beads from Kondapur op. cit.* (1952). also G. Yazdani, 'Excavation at Kondapur—an Andhra Town (circa 200 B.C. to 200 A. D.)', *Ann. Bhandarkar Oriental Res. Inst.*, XII, pts. III-IV (1941), pl. XII.

well be one of the causes of their present absence. This gains some support in view of the fact that some of the animal forms in beads, like the tortoise, the fish and the frog, so common in the north, are also found distributed in the south notably at Maski, Arikamedu and Kondapur. The animal and the bird shapes of beads, though common in stone, are generally very rarely represented in terracotta specimens. The possibility of the bird, having some cult symbolism cannot be precluded in view of the form being repeated in several materials elsewhere.

The tortoise is again a familiar shape among the stone amulets which were probably used as fertility charms. Crystal, agate, chalcedony, carnelian and green jasper amulets of this shape are present in the Allahabad and Patna Museums and the Bharat Kala Bhavan, Banares. One garnet specimen was obtained from Ahichchhatra. Glazed faience is the material used for a tortoise-shaped bead-amulet found in the excavations at Sambhar in the Jaipur State.¹ At Taxila eight beads of different materials imitating this shape have been found at Sirsukh and the Dharmarajika Stūpa.² Five beads of this shape from Sahri Bahlol are preserved in Col. D.H. Gordon's collection.³ The only terracotta specimen I know of comes from Rajghat, now in the Bharat Kala Bhavan, Banares. While the type is generally confined to north India the only specimen of this shape known from the south is from Maski⁴ and in shell.

Tortoise figures very largely in Indian literature.⁵ It is considered to be the second among the ten *Avatāras* of the God and serves as the vehicle for the river Goddess Yamunā. In amulets it is more probable that the animal symbolized a fertility figure, or a charm. In Egypt tortoise amulets were used in the Old Kingdom and the First Intermediate Period. These⁶ are known to occur at Mahasnah⁷ and in Herageh.⁸

Tri-ratna represented in no. 125 is a well known device symbolizing the Buddha, *dharma* and the *saṅgha*. While this device occurs very frequently in early Indian sculpture, the shape is often used for beads at several places in India. Seven *tri-ratna* beads in various materials like agate, carnelian, garnet, shell, serpentine and ivory, and ranging between fifth century B.C. to first century A.D. have been found at Taxila.⁹ The stūpa at Manikyala¹⁰ yielded one carnelian pendant shaped like a *tri-ratna*. This again is the shape for a mother-of-pearl speci-

¹ D. R. Sahni, *Excavations at Sambhar*, pl. XV, k.

² Beck, *op. cit.* (1941), pl. VII, 22-26.

³ Information from Col. D. H. Gordon for these and other beads in his collection.

⁴ *An. Rep. Arch. Dept. H. E. H. the Nizam's Dominion for the year 1935-36*, pl VI, f.

⁵ For various aspects and the symbolism connected with the tortoise, see Moses, "Turtle Lore", *Q. J. M. S.*, XXXIX, pp. 117-128; and B. Kakati, "The Fish and the Tortoise Deities", *Journal of the University of Gauhati*, I, no. 1, pp. 31-40.

⁶ C. Petrie, *Amulets*, 239.

⁷ Garstang, *Mahasnah and Bet Khallaf*, pl. xxxix and xliii, 46.

⁸ Engelback, *Herageh*, pl. xlix, cited in Brunton, Qau and Badari, II, p. 14.

⁹ Beck, *op. cit.* (1941), pls. I, 25; III, 19; IV, 21-22; VI, 33; VIII, 7; and X, 14.

¹⁰ Cunningham, *Arch. Surv. Ind. Rep.* XIV, pl. IV, 6.,

men found at Bodh-Gaya.¹ The relic casket at Piprāwah² also contained one bead of this shape. Other sites where such beads have been found include Kanauj,³ Lauriya Nandangarh,⁴ Sahri Bahlol and Harbara, a site in south Bihar.⁵ The popularity of this shape is indicated by certain sculptures from Bhārhut showing these beads in the garlands worn.⁶ In the south three beads of this shape are known from the reliquary from the Buddhist stūpa at Sopara,⁷ one from Kondapur and three from Nasik. Another glass bead of this shape occurs at Arikamedu.⁸

¹ Cunningham, *Mahabodhi*, pl. XXII, 28.

² *Jr. Roy. Asiatic Soc.* 1898. p. 578.

³ *Jr. Indian Art and Industry*, IX (1900), pl. 25, 71.

⁴ *An. Rep. Arch. Surv. India*, 1934-35, pl. XXII.

⁵ Col. Gordon's collection.

⁶ L. Bachhofer, *Early Indian Sculptures*, I (New York, 1927) pl. 21.

Jr. Bombay Branch Roy. Asiatic Soc., XV, pl. XIV.

Beads in the Bibliotheque at Pondicherry.

CHAPTER XIII

THE POTTERY

1. INTRODUCTORY

The pottery assemblage at Kauśāmbī comprises in the main three groups corresponding to the three cultural periods of the site. The earliest of these is marked by the occurrence of grey ware some of which, being painted, shows affinities with the now-famous Painted Grey Ware. In the second group, the Northern Black Polished Ware is more prominent although a red ware and a coarser variety of grey ware were also in existence. Both of the latter, though only secondary industries, offered numerous links with the Northern Black Polished Ware, a number of types being common to all the three industries (see below). The dish and the bowl types though more frequent in the N.B.P. Ware and its associate grey ware are by no means unknown to the contemporary red ware wherein the range of types is far larger than in the other two industries. In the third group only red ware is obtained. From Sub-period V onwards, however, it is supplemented by a chocolate coloured ware.

The pottery from Kauśāmbī, studied in relation to the contemporary material furnished by the excavations at Ahichchhatra¹ Taxila,² Hastināpure,³ Rūpar,⁴ Rajgir,⁵ and Tripurī⁶ focusses attention on the fundamental cultural unity of northern India, particularly the Gangetic valley. It also puts into sharp relief the various currents and cross-currents that modified and shaped its growth. The Painted Grey Ware which is represented here as a dwindling industry has already been established as one of the significant ceramic industries of the Dark Age, notably in the Brahmadeśa. Most of the types found in Periods II and III at Kauśāmbī are easily comparable at the above-mentioned sites from the contemporary strata; the similarity being so close, both in form and fabric, that

¹ A. Ghosh and K. C. Panigrahi, 'Pottery of Ahichchhatra' *Ancient India*, no. 1 (Delhi, Jan 1956), pp. 37-59, abbreviated in the following pages as *Ahichchhatrā*.

² Sir John Marshall, *Taxila*, I-III (Cambridge, 1951), abbreviated in the following pages as *Taxila*.

³ B. B. Lal, 'Excavations at Hastināpura and other explorations in the upper Ganga and Sutlej basins 1950-52', *Ancient India*, nos. 10 and 11 (Delhi, 1954-55), pp. 5 ff, abbreviated in the following pages as *Hastināpura*.

⁴ Y. D. Sharma, 'Exploration of Historical Sites', *Ancient India*, no. 9 (Delhi, 1953), pp. 123-29, abbreviated in the following pages as *Rūpar*.

⁵ A. Ghosh, 'Rajgir 1950', *Ancient India*, no. 7 (Delhi, 1951), pp. 66-78, abbreviated in the following pages as *Rajgir*.

⁶ M. G. Dikshit, *Tripurī-1952* (Nagpur, 1955), abbreviated in the following pages as *Tripurī*

a type from a particular site can hardly be separated from its counterpart from the other site. These numerous parallels afford cultural links between these sites. Correspondence in types extends even to smaller vessels and jars. The parallels cited above make it quite clear that the Gangetic valley, as revealed by the more important centres like Ahichchhatra, Hastinapura, Rajgir and Kauśāmbī, was knit together by a strong ceramic bond. Underlying this unity, regional variation were no doubt existing, emphasizing the personality of each region.

During the early levels of Period III not many parallels are available with other Gangetic sites. This may perhaps be explained by the decentralization in Mauryan authority at this period. The cultural unity, however, remained unimpaired as evidenced by the occurrence of such decorative stamped patterns as *triratna*, *svastika*, *chaitya* etc. (cf. *Ahichchhatra*, p. 46, *Hastinapura*, pl. XXXI). From Sub-period V to VIII, the site again becomes a focus for the interchange of ideas both social and political with the result that some of the types from these levels are again widely distributed. Outstanding amongst these are : (a) the sprinkler or *surahi* (figs. 31, 125, 125A and 32), (b) lids (fig. 33, 129-137) and (c) bowls (fig. 17, 4-8). The main element in the new inspiration underlying the unity of the ceramic industry had its source outside the Gangetic valley and can be traced to Saka-Parthians and Kushans, who carved out a far-flung kingdom embracing the whole of Gangetic valley including northern and western India.

It is significant to note that Kauśāmbī had links even with central India both in Periods II and III. The prominent and common types of Period II, namely, bowls, dishes, basins, handies, jars and lids, correspond in shape to those of the comparable period from Tripuri. Similarly the pottery of Period III notably from Sub-period V presents analogues at Tripuri in the corresponding strata (fig. 24, 14 and 16; fig. 26, 60 and 61). Strangely enough these forms have not been paralleled from any other site in the Gangetic valley. The types of *surahi* with and without spouts, lids, jars, stoppers afford recognizable comparisons.

To sum up we may state : (i) The Kauśāmbī painted grey ware of Period I seems to be linked up with the Painted Gray Ware of Hastinapura and other sites in the Brahmadeśa. This corresponds with a phase of the earliest expansion of the Aryans in Madhyadeśa, or precisely still in the central Gangetic valley. (ii) The N.B.P. Ware was a new industry developed and patented in the central Gangetic valley and may be treated as a product of the tendencies that were revolutionizing the politics and religion of this region in about the 6th century B.C. (iii) The coarse grey ware and the more utilitarian red ware of Period II also demonstrate the fundamental cultural unity of northern India. (iv) In the immediate post-N.B.P. period regional diversity is in evidence. (v) From Sub-period V to VI, cultural unity is again revealed. (vi) Links between Kauśāmbī and central India are also available in Periods II and III.

The foregoing evidence is fully in accord with the geographical position of Kauśāmbī in the communication system of north and south India.

2. PERIOD I

The earliest deposits at Kauśāmbī yielded sherds of grey ware. A number of barren layers representing a total thickness of nine feet intervene between the lowest occurrence of the more prolific N.B.P. Ware and the strata yielding the grey ware. This grey ware is also painted in a few cases, but the paintings are only elementary and comprise horizontal bands on the rim or the body. The basic types, however, are the same as those of the patent Painted Grey Ware at Hastināpura. Of the many sherds available, only two afford determinable shapes : (1) Dish with incurved featureless rim and (2) bowl with inturned featureless rim and carinated profile. Associated with this industry was a coarse red ware of which not many sherds are available for determining the range of shapes.

The Painted Grey Ware is mainly concentrated in the western districts of Uttar Pradesh, the Punjab and the dried up valleys of the Sarasvati in Rājasthan. The distribution is virtually co-terminus with the land Brahmavarta and Brahmadeśa held holy in the Aryan literature.¹ The date of this pottery as ascribed to at Hastināpura is no less significant.² Considered in this context the evidence furnished by the few painted sherds from Kauśāmbī is extremely illuminating. The strata yielding these sherds at Kauśāmbī can be dated to the opening centuries of the 1st millennium B.C. if not earlier. This date fits in well with the movement of the Aryans from Brahmadeśa into the Madhyadeśa. The painted grey ware sherds from Kauśāmbī are distinctively coarser and thicker in fabric as compared to those from Hastināpura and other sites of the western area. This may perhaps represent an eastern extension of the culture which underwent modifications in the course (fig. 12) of diffusion.

The illustrated types are listed below :

Type A. Bowl of grey ware with an inturned featureless rim and a carinated body. It is faintly painted in black on the outside with a horizontal line at the carination. Of medium fabric, it has a grey surface slipped both externally and internally.

Type B. Dish of grey ware with incurved featureless rim. It is painted in black both on the outside and inside with a horizontal rim band. It has a burnished grey surface slipped both externally and internally.

3. PERIOD II

A. THE NORTHERN BLACK POLISHED WARE

This typical industry, being the distinctive pottery at Kauśāmbī, has been commonly, though inaptly, described as the Northern Black Polished Ware. Recent excavations and explorations have shown that the Ware is quite widely distributed, occurring as far south as Amaravati³ (cf. *Hastinapura*, p. 4, fig. 1 and pp. 50-52, 143-46) and can, therefore, no longer be regarded as exclusively a north

¹ *Ancient India*, nos. 10 and 11 (Delhi), Jan. 1955), pp. 2 and 138-143.

² *Ibid.*, p. 23.

³ *Indian Archaeology 1953-54—A Review* (New Delhi, 1954), p. 38.

Indian ceramic. Similarly, though black is the predominant colour, the ware was also produced in steel grey, chocolate, orange and golden hues. Instances where double colour has been achieved are not wanting (cf. figs. 12 and 13, V, VIII, XII, XVI, XXXIII, XXXV, XXXVII, XLV and XLVII). These include either one colour for the outside and the other for the inside or two different shades on the same side, one confining to the upper portion while the other to the lower. In some cases patches of black alternate with red. But these variations are principally due to the amount of oxygen and carbon monoxide present in the kiln atmosphere during firing.

As regards its technique of manufacture recent chemical analysis¹ has shown that the lustre on the surface is composed of some easily fusible material possibly of organic origin. The slip-coat, applied after firing, consisted of some liquid such as oil or a juice of some plant or some similar organic material. Possibility of its being double fired² or saggar fired³ has been hinted earlier too. Type XLVI shows a mat red colour below the peeled off slip, which seemingly must have been applied after firing. It may be interesting to know in this connection that a similar, though inferior, black polished pottery is still produced in the Azamgarh District of Uttar Pradesh. The process of its manufacture is as follows: The pots are burnished before firing with small round pebbles of even surface and thereafter dressed with a coat of oil. They are placed in a big jar packed with husk, preferably rice husk. The jar is finally deposited in the kiln and subjected to a high temperature firing. Noteworthy in this process, however, is the employment of jars instead of saggars to obtain an evenly-distributed heat and a glossy surface.

The Ware is represented principally in dish and bowl forms. Other shapes obtaining in this fabric are lid (fig. 14, LV and LVI); vases (fig 14, LVII and LVIII) and carinated *handi* (fig. 14, LI).

It has already been stated that the Ware had a wide distribution ranging as it does from Taxila in the north to Amaravati in the south and Bangarh in the east to Nasik in the west. The main concentration, however, was in the central Gangetic valley wherein it is prolific. The surface of sites falling within this belt, e.g., Jhūsi, Bara, Ayodhya, Rajghat, Masaon, Buxar, Vaiśali etc. is littered over with sherds of N.B.P. Ware in all the shades noted above. The total thickness of deposit yielding this Ware at Kauśāmbī is nearly 15 ft. and the same could be said of other sites in the region. The picture changes as we proceed westwards or further east. Not only does the thickness of deposit representing this Ware decrease appreciably, but there is a marked fall in the yield too. For example two seasons of work at Hastināpura produced only 101 sherds from 9-10 ft. deposit in 590 ft. and 40 ft. long trenches (cf. *Hastināpura* p. 51). This evidence is corroborated by that from Taxila where only 20 sherds were recovered during

¹ *Indian Archaeology* 1955-56—*A Review* (New Delhi, 1956), pp. 56-57.

² *Ancient India*, nos. 10 and 11, *op. cit.*, p. 53.

³ Rawson, 'The surface treatment of early Indian pottery', *Man* LIII, March, 1953.

the extensive excavations extended over 20 years (cf. *Ancient India* no 1 pp. 55-56). At Kauśambī, on the other hand, the percentage of N.B.P. Ware sherds in layers 16-10 sometimes even exceeds 10% of the total yield. Paucity of N.B.P. Ware in areas away from the central belt is further demonstrated by the occurrence at Rupar, Tripuri, Rairh and Karasal of some broken specimens rivetted by copper wire.¹ Undoubtedly, the Ware at these places was an imported article highly prized and retained with utmost of care. These areas, therefore, represent the peripheral region of dispersal of this distinct industry.

Adverting to the question whether the N.B.P. Ware was derived out of the Painted Grey Ware which preceded it, the available evidence clearly indicates that the N.B.P. Ware was a new invention in Indian ceramic art. It was in fact the response of Madhyadeśa to the challenge provided by the coming of new elements at the beginning of the sixth century B.C.

From the foregoing it is evident that the N.B.P. Ware at Kauśambī was an indigenous industry. It makes its first appearance at the site in pits cut into layers 17 and continues upto layer 8. The few sherds recovered from layer 7 or a little upwards do not in any way attest to the currency of this Ware but only indicate some chance survivals. The first occupational deposit of N.B.P. Ware shows the industry in a fully mature form. It seems to burst forth at the site in all its splendour. Out of 58 types, illustrated below, as many as 37 belong to Pre-structural I and II. Similarly all the shades of colour were present in these early levels. The close of Sub-period IB makes a significant change in the history of the N.B.P. Ware at Kauśambī. An extensive conflagration seems to have taken place as evidenced by a 1 to 1½ ft. thick deposit of charred material represented by layer 9. The N.B.P. Ware industry received a set back thereafter and could not fully recover from it. The Ware had by this time lost its vigour and was almost a dying industry.

Some of the shapes in this Ware are closely paralleled both in grey ware and the red ware attesting to the close relation of all the three industries (fig. 12, XII and fig. 14, L and LII).

The selected types are illustrated below :—

Figs. 12-14

Type I. Bowl, black in colour, with an internally sharpened rim, a ribbed body (on the exterior), a tapering profile and a flat base. The centre of the base on the inside has been stamped with small concentric circles. It is an extremely fine variety of N.B.P. Ware with lustrous polish and uniformly burnt grey core. The type occurs in Pre-structural V.

Type II. A variant of the above with a more lustrous body which is rippled. The type does not seem to be very common at Kauśambī and has not been reported from anywhere else.

¹ *Ancient India*, no. 9 (Delhi, 1953.) p. 119.

Type III. Bowl, black in colour, with an out-turned sharpened rim and a tapering body. It is thin in section and extremely light. The type is comparatively common. The earliest specimens occur in Pre-structural V.

Type IV. Bowl, black in colour with an internally sharpened rim incurved sides and presumably a flat base. Thin in section, it has an extremely fine fabric with grey core. The type is available in Pre-structural I.

Type V. Bowl with a vertical featureless rim and incurved sides. It has a medium to fine fabric, grey core and is polished internally. The upper half of the external surface is polished bright black while the lower has a golden hue. The type is available in Pre-structural I.

Type VI. Bowl with vertical internally sharpened rim and incurved sides. It has a fine fabric with deep red external polish of a very high quality. Patches of black alternate with red on the internal surface. The type is available in Pre-structural I.

Type VII. Deep bowl, lustrous black in colour, with vertical featureless rim and sides slightly incurved towards the base. It occurs in Pre-structural IV.

Type VIII. Bowl with a vertical featureless rim. The rim on the internal side shows marks of inverted firing. The type is available in Pre-structural II.

Type IX. Bowl, light orange in colour, with a vertical sharpened rim and slightly incurved sides. The rim is decorated with a thin black band (not shown in the drawing). The type is available in Pre-structural II.

Type X. Bowl, lustrous black in colour, with an out-turned rim, a tapering profile and presumably a flat base. The type is available in Pre-structural II.

Type XI. Bowl, lustrous black in colour, with an out-turned rim, internally thickened and a tapering body. The type does not seem to be very common and occurs from Prestructural I to Sub-period II. A variant of it occurs in Sub-period IB also.

Type XII. A shallow bowl with an out-curved internally thickened rim, tapering sides and a convex base. Of fine fabric with dull red core, it has a deep reddish chocolate polish on the inside and still deeper on the outside. The type occurs in the last Sub-period of the N.B.P. Ware and is probably indicative of the effort to use the polish on a purely red ware. The type occurs in Sub-period II.

Type XIII. Deep bowl, black in colour, with a vertical featureless rim. The body is distinguished by three prominent ribs. The type is available in Pre-structural I.

Type XIV. Bowl, lustrous black in colour, with a vertical internally thinned rim, and a concave neck separated from the corrugated body by a prominent cordon. It is an extremely fine variety of N.B.P. Ware with fine fabric, grey core, extremely light and thin in section. The type is available in Pre-structural I.

Type XV. Deep bowl, lustrous black in colour, with a vertical featureless rim. A prominent rib separates the concave neck from the deeply corrugated body. Of an extremely fine fabric with grey core, it is thin in section and is very light. The type is available in Pre-structural I. Though rare in N.B.P. Ware the type is fairly common in grey ware, plain as also black-slipped.

Type XVI. A variant of type XVIII, the flange and the corrugation being more pronounced than in the case of type XVIII. The type begins in Pre-structural I and continues upto Pre-structural V. It has a fine fabric with grey core and a bright chocolate polish on the outside and light grey on the inside.

Type XVII. Deep bowl with a vertical rim internally sharpened, a concave neck and an externally corrugated body with an inconspicuous flange at the junction of the neck. It does not show a uniform colour ; patches of red alternate with those of black. The shape is a very common one and, with variants, is available in all the Sub-periods of Period II. Analogies have been reported from sites of comparable period like Jhūsi, Bhītā, Rājghāt, Patnā etc.

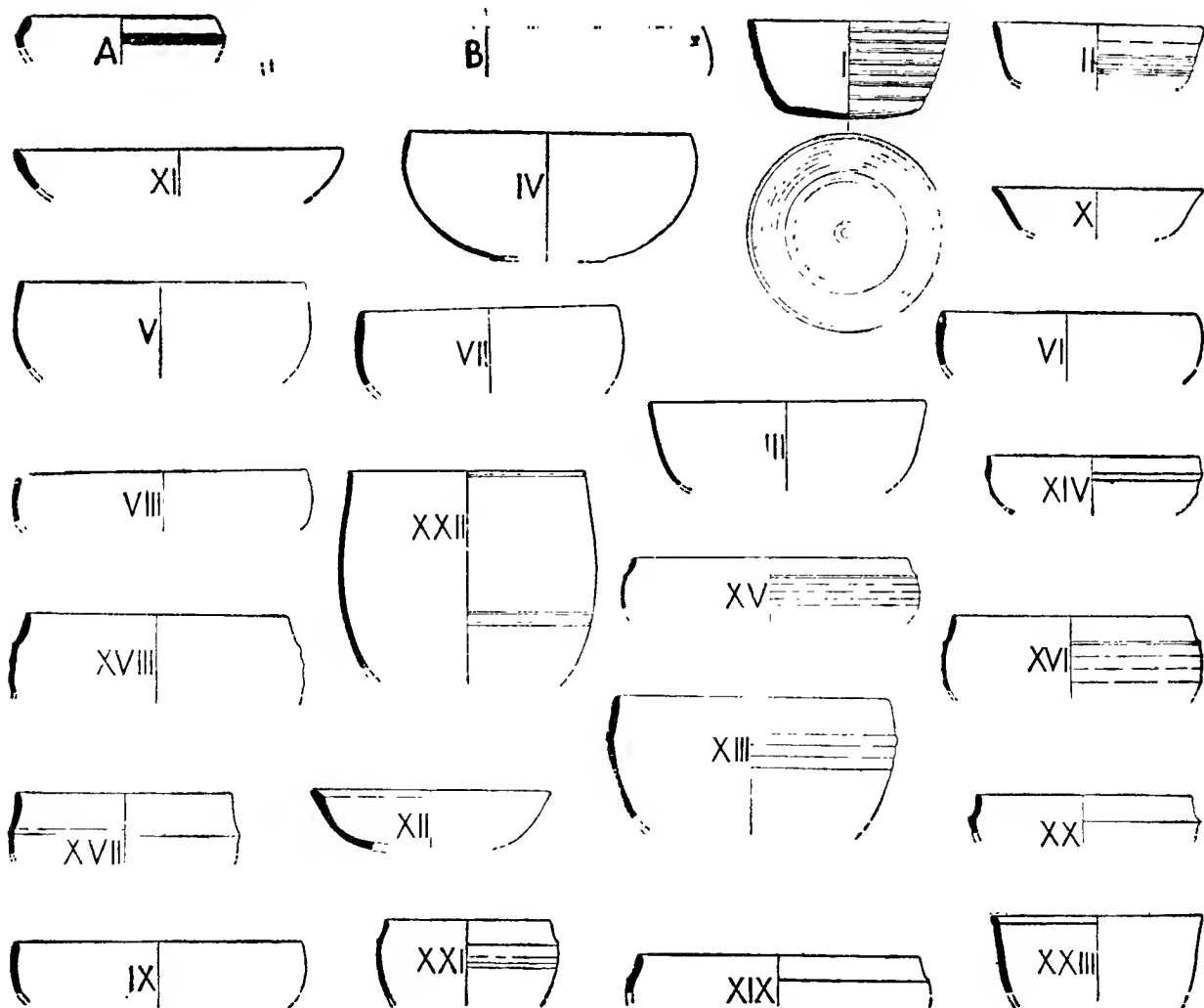


FIG. 12

Type XVIII. Deep bowl, steel black in colour, with a slightly inturned internally sharpened rim, concave neck, corrugated body with an inconspicuous flange at the junction of the neck and the body, possibly to receive a lid. Of fine fabric, its core is black, possibly due to indifferent firing. Essentially it is a variant of type XVII. The type occurs from Pre-structural I to Sub-period II.

Types XIX and XX. Are variants of type XVIII. But in type XX the flange is more pronounced. The type occurs from Pre-structural I to Sub-period IB. Type XIX begins in Pre-structural III and continues upto Sub-period IB.

Type XXI. A variant of type XVIII. The body in this case is deeper. Some of the forms in this type show adaptation of grey ware to N.B.P. Ware technique but some have extremely fine fabric with steel grey lustrous polish. The type occurs in Sub-period I B and continues upto Sub-period II.

Type XXII. Deep bowl, black in colour, with slightly everted rim and ovoid body. It is distinguished by grooves below the neck and on the girth. Of rough fabric with grey core, it is polished both inside and outside with a bright black slip. The type occurs in Pre-structural II.

Type XXIII. Deep bowl with an out-turned featureless rim and tapering sides. Of grey core, it is treated both internally and externally with a polished black slip. It is a typical example of the application of black polish technique to a purely grey ware. Such examples are by no means rare and occur mostly in Pre-structural V.

Type XXIV. Large dish (*thāli*) with incurved internally thickened rim, curved sides and a convex base. Of a medium fabric with grey to dull red core, it has a bright black polish of medium quality. It is indifferently fired showing patches of black polish alternating with red. It is a common type and is available in all Sub-period of N.B.P. Ware from Pre-structural I to Sub-period IB.

Type XXV. It is a variant of type XXIV and differs in the internal thickening of the rim. On the other hand, its exceptionally fine fabric and lustrous black polish sharply distinguish it from type XXIV. It is available from Pre-structural I to Sub-period II.

Type XXVI. It is a variant of types XXIV and XXV. It occurs in Pre-structural V while the type as such begins from Pre-structural I and continues upto Sub-period II.

Type XXVII. Dish, golden in colour, with incurved internally thickened rim, and roughly vertical sides. The type occurs in Pre-structural I and is available upto Pre-structural V.

Type XXVIII. Dish, golden in colour, with incurved internally thickened rim and convex sides. Of fine fabric, it has a grey core. The type occurs from Pre-structural I to Sub-period I A, but is mainly concentrated in Pre-structural V.

Type XXIX. Dish with an almost vertical rim and possibly a convex base. In colour it is comparable to types XXVII and XXVIII. The type occurs from Pre-structural I to Pre-structural V.

Type XXX. Dish, black in colour, with in-turned externally thickened and grooved rim and incurved side. The type is not a very common one and occurs in Pre-structural I and continues upto Pre-structural V.

Type XXXI. Dish, black in colour, with incurved externally grooved rim and convex sides. It occurs in Pre-structural I and continues upto Pre-structural V.

Type XXXII. Dish with an everted externally grooved rim and incurved sides. Of medium fabric, it shows red and black patches on the exterior surface. The type occurs in Pre-structural I and continues upto Pre-structural V.

Type XXXIII. Dish, chocolate red in colour, with in-turned featureless rim, incurved sides showing an unpronounced carination at the shoulder. The type is a common one and occurs from Pre-structural I to Sub-period I B.

Type XXXIV. Dish, steel blue in colour, with an in-curved externally grooved rim and convex sides. The type is quite common and occurs from Pre-structural I to Sub-period II but is more often met with in Pre-structural V and Sub-period I A.

Type XXXV. Miniature dish, chocolate red in colour, with a rim and a flat base. It is thin in section and is extremely light in weight. The type is not uncommon and occurs from Pre-structural I to Sub-period I A but is mostly found in Pre-structural II.

Type XXXVI. Dish, lustrous black in colour, with a slightly closing featureless rim and convex sides. The type occurs in Pre-structural I.

Type XXXVII. It is a variant of type XXXIX and occurs from Pre-structural I to Sub-period I B.

Type XXXVIII. Dish, black in colour, with a slightly closing featureless rim and sides carinated to presumably a sagger base. The type occurs in Sub-period I.

Type XXXIX. Dish, lustrous black in colour, with an internally thickened rim incurved sides and probably a sagger base. It is of a thinner and lighter variety as compared to types XXV and XXVI. It occurs in Pre-structural II.

Type XL. Dish, black in colour, with in-curved rim and sides and probably a convex base. It occurs from Pre-structural II to Sub-period I A. Analogies exist at Rājgīr (cf. *Rājgīr*, p. 73, fig. 3, i).

Type XLI. Dish with an in-turned featureless rim and incurved sides. The type occurs in Pre-structural II and continues upto Sub-period I A.

Type XLII. Dish, lustrous black in colour, with a featureless rim, incurved sides and possibly a convex base. It occurs from Pre-structural II to Sub-period I B.

Type XLIII. Miniature dish, black in colour, with an in-turned rim, convex sides and possibly a sagger base. The black polish has flaked off at many places revealing the original grey surface. The type begins in Pre-structural II and continues upto Sub-period I B. Similar form is also available at Rājgīr (cf. *Rājgīr*, p. 73, fig. 3, ii).

Type XLIV. Dish, shining black in colour, with an in-curved, featureless rim and probably a convex base. It occurs from Pre-structural II to Sub-period I B but is more common in Sub-period I A.

Type XLV. Dish, lustrous black in colour, with a slightly everted rim, incurved sides and a sagger base. The hue of the polish on the inside as also on the underside is steel grey as compared to coal black on the exterior. The type is fairly common and occurs from Pre-structural II to Sub-period I A.

Type XLVI. Dish, black in colour, with an in curved featureless rim, weakly carinated in mid portion of the body and possibly a sagger base. The type appears

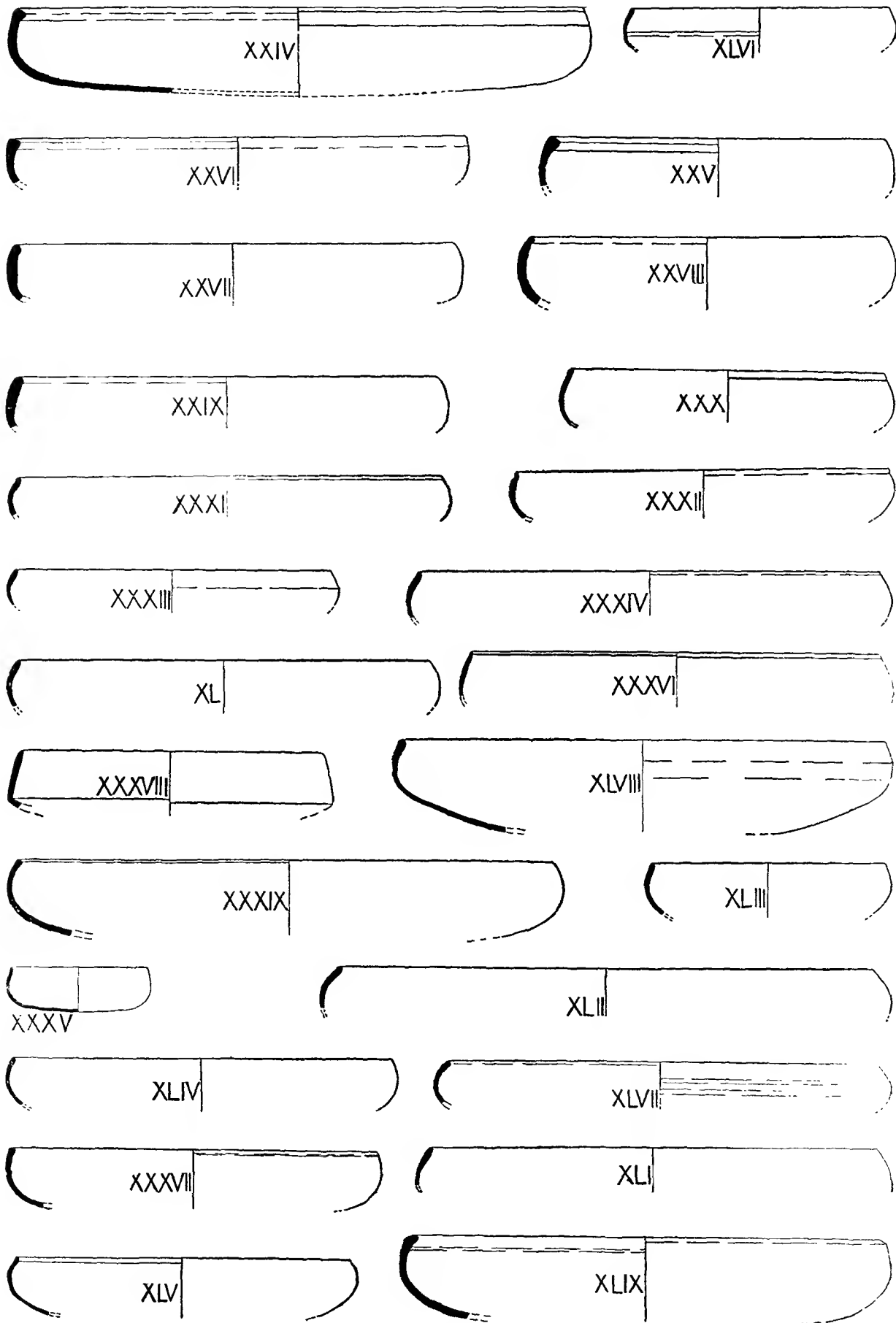


FIG. 13

to have been double fired. The type is not uncommon and occurs from Pre-structural III to Sub-period I B.

Type XLVII. Dish, chocolate brown in colour, with a featureless rim and incurved sides. It is further distinguished by inconspicuous parallel grooves on the outside. On the inside the surface is steel grey. The type is a rare one and is available in Pre-structural III.

Type XLVIII. Dish, black in colour, with a slightly inturned thickened rim, convex sides and a sagger base. The surface shows patches of jet black and grey due to uneven firing. The type is not common and occurs in Pre-structural V.

Type XLIX. Dish, steel grey in colour, with a vertical thickened rim, incurved sides and a sagger base. The type occurs in Sub-period I A.

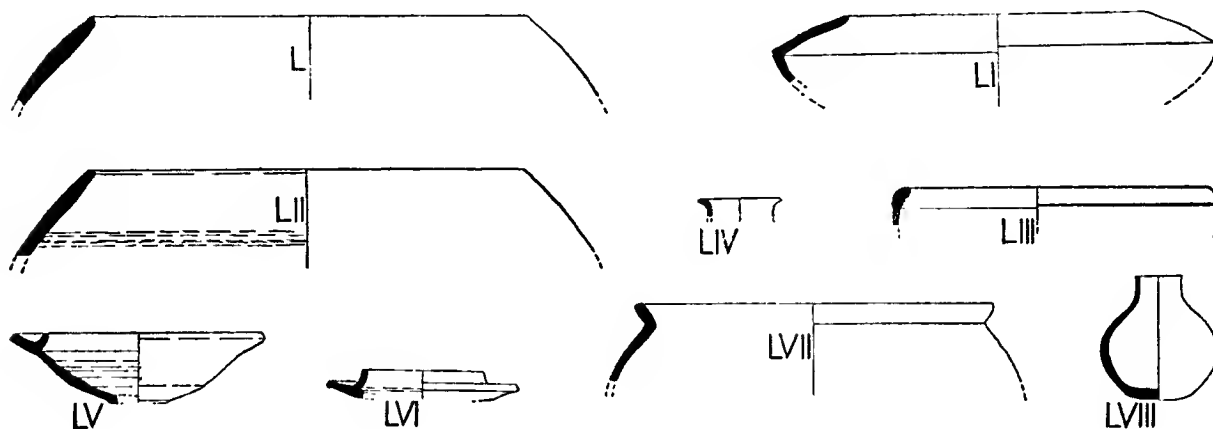


FIG 14

Type L. *Handi*, chocolate red in colour, with a closing featureless thinner rim. The fabric is medium. The inside surface of the pot is slaty grey. The type is fairly common and is available from Pre-structural II to Sub-period I B, but is largely concentrated in earlier Sub-periods.

Type LI. Is a variant of the above with internally close grooved body. It is grey in colour. The type begins in Pre-structural II and continues upto Sub-period I A.

Type LII. *Handi*, steel grey in colour, with a closing featureless rim, sharply carinated to presumably a rounded base. It occurs from Pre-structural II to Sub-period I A.

Type LIII. Miniature basin, steel blue in colour, with an in-turned externally collared rim and vertical sides. The type is available from Pre-structural I to Sub-period II.

Type LIV. Miniature vase, steel grey in colour, with an out-curved sharpened rim and a concave neck. It is a new and unique type from Pre-structural I.

Type LV. Lid, lustrous black in colour, with a vertical featureless lip and a rebated flanged waist. The internal surface is marked with corrugations and has a slaty surface. The type occurs in Pre-structural I.

Type LVI. Lid, black in colour, a variant of the above with a prominent flanged waist. The type is a new and rare one. Only one specimen is available from Pre-structural II.

Type LVII. Vase, black in colour, with a splayed out rim, a carinated neck and an oval body. The type is a rare one and occurs in Pre-structural V.

Type LVIII. Small vase, black in colour, with a vertical featureless rim, a straight neck, convex shoulders, a rounded body and a flat base. It is an uncommon type and occurs in Sub-period I A.

B. THE GREY WARE

This grey ware is usually of medium fabric, has a thicker section and a comparatively rougher surface than that obtained in the Painted Grey Ware. Similar fabric was also noticed at Hastināpura in Period III (cf. *Hastināpura*, p. 52-53). Noteworthy of this ware, however, is the unimaginative paintings in black pigment. The designs do not seem to have been drawn in an assured style but give indication of being merely trailed (fig. 15, XI-XIII). It is reasonable to infer that the tradition of the Painted Grey Ware of Period I may have continued in a degenerate form into Period II as well. Some of the types in this ware show close similarity with both the N.B.P. Ware and the red ware (cf. fig. 15, XIV, fig. 17, XLV) indicating the popular demand of the type necessitating its production in all the wares of the period.

The following is a representative series of types from this ware :—

FIGS. 15-17

Type I. Bowl of grey ware with a slightly incurved sharpened rim, tapering sides and a flat base. Of medium fabric, it is treated both externally and internally with a grey coloured wash. The type is quite common and occurs from Pre-structural I to Sub-period I A. It is not unlikely that it is pre-N.B.P. Ware in origin. Analogies exist both at Rājgir and Hastināpura (cf. *Rājgir*, p. 76, fig. 5, 28 and *Hastināpura*, p. 54, fig. 15, 1).

Type II. Bowl with a vertical featureless rim, ledged on the shoulder possibly to receive a lid, and a rounded base. Of fine to medium fabric, it is treated with a grey slip both on the outside and inside which also shows stray vertical lines painted in black. The type is not a very common one and is available in Pre-structural V. It is available also at Rājgir (cf. *Rājgir*, p. 76, fig. 5, 27).

Type III. Bowl of grey ware with an in-turned featureless rim, tapering sides and a flat base. Of coarse fabric, it has a blackish grey core and shows uneven firing. It occurs in Sub-period I B and Sub-period II and has analogies at Rājgir (cf. *Rājgir*, p. 76, fig. 5, 24).

Type IV. Bowl of grey ware with a vertical internally thickened rim, sharpened at the end and tapering sides presumably to form a constricted flat base. The type is fairly common and is available from Pre-structural I to Sub-period I B.

Type V. Dish of grey ware with a vertical featureless rim, grooved externally, incurved sides and a sagger base. Of medium fabric with grey core, it seems to be burnished both externally and internally. The type is available in Pre-structural I and continues upto Sub-period I A.

Type VI. Deep dish of grey ware with a vertical sharpened rim and almost straight sides. Of medium fabric with grey core, it is treated with a grey slip both externally and internally. The type is fairly common and occurs from Pre-structural I to Sub-period I A.

Type VII. Dish of grey ware with a vertical featureless rim, straight sides and presumably a convex base. Of medium fabric with grey core, it is treated with a deep grey slip both externally and internally. The type is fairly common and occurs from Pre-structural V to Sub-period I B.

Type VIII. Dish of grey ware with an incurved featureless rim. Of medium fabric with grey core, it is treated both externally and internally with deep grey wash. The type occurs from Pre-structural V to Sub-period III, but is more common in Sub-period III. Analogies exist at Ahichchhatrā (cf. *Ahichchhatrā*, p. 42, fig. 1, 12).

Type IX. Dish of grey ware with an in-curved rim, externally grooved. Of medium fabric with grey core, it is treated both externally and internally with a deep grey wash. The type occurs from Pre-structural V to Sub-period II but is more common in Sub-period I B and Sub-period II.

Type X. *Handi* of grey ware, sharply carinated and with a closing featureless rim. Of medium fabric with grey core, it is treated both externally and internally with a wash. The type is very common and is available from Pre-structural V upto Sub-period VI. It also occurs in N.B.P. Ware and the red ware.

Type XI. Bowl of grey ware with a vertical rim and tapering sides. The rim is painted in black with a horizontal line. One specimen of the type was discovered in Sub-period I A and another in Sub-period I B.

Type XII. Lower part of a vase of grey ware with tapering sides and a flat base. The outer surface is painted with irregular lines in black. Of coarse fabric with grey core, it is treated both externally and internally with a grey slip. It is a unique specimen.

Type XIII. Dish of grey ware with an internally thinned rim and closing sides. Of medium fabric with grey core, it is burnished and also shows irregular slanting strokes painted in black on the inside. The type is uncommon and occurs in Sub-period I A.

Type XIV. Deep bowl of grey ware with a vertical sharpened rim, thickening sides, low girth and a flat base. Of medium fabric, with a grey terracotta red core, it is treated both externally and internally with a black slip. The fabric as a whole offers a link between contemporary grey and red wares. The type occurs in Pre-structural I.

Type XV. Bowl of grey ware with a vertical rim, internally chamfered, incurved body and a convex base. The distinctive feature of the type is the design

stamped on the inner side of the base. The design consists of two concentric circles enclosing a ring of seven dots, which in their turn enclose another circle with a prominent knob like dot in the centre. Of medium to coarse fabric, it is treated with a black slip which has peeled off at many places. The type occurs in Pre-structural I.

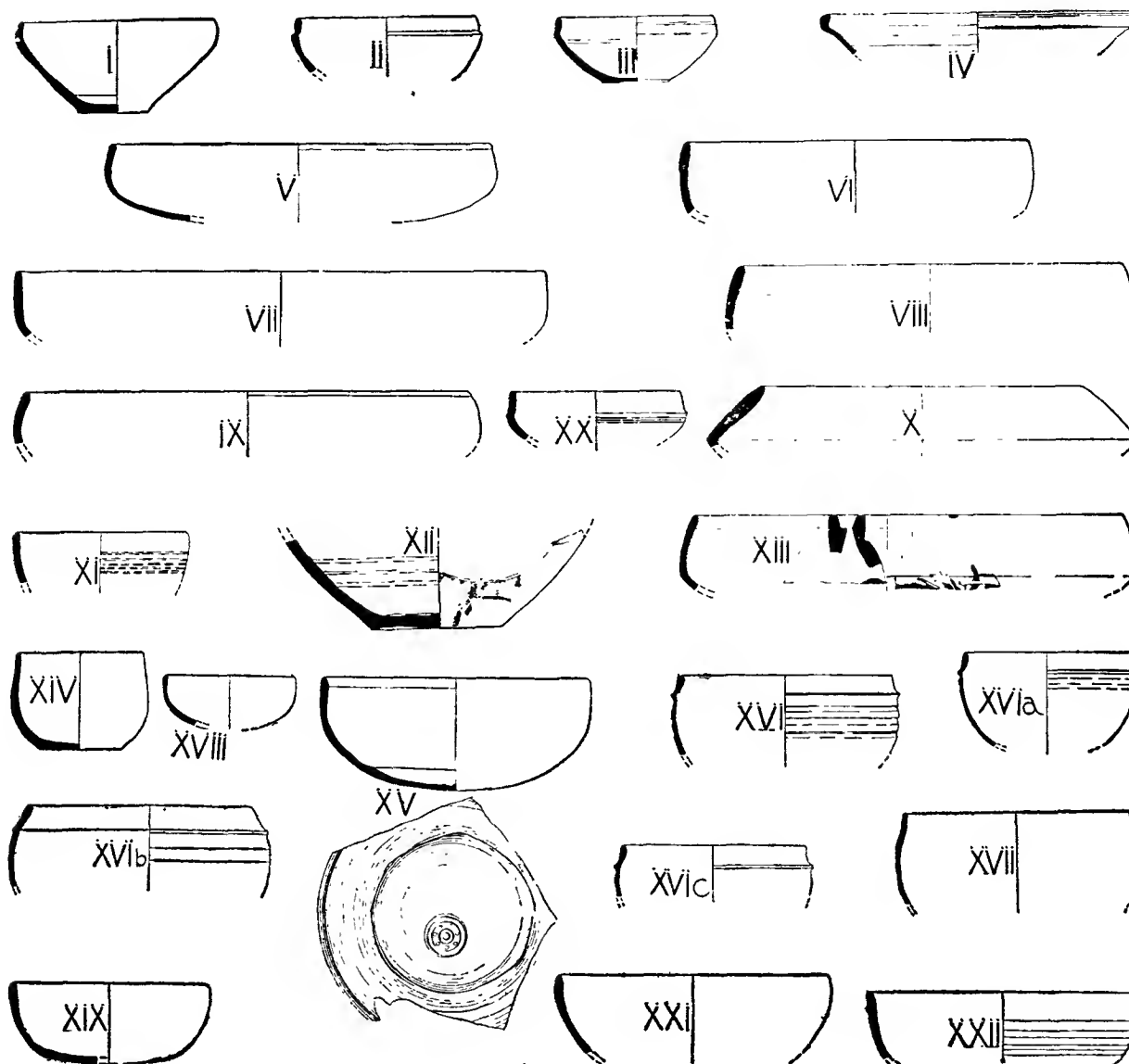


FIG. 15

Type XVI. Deep bowl of grey ware with a vertical featureless rim and convex sides. The body is marked by grooves and a cordon. Of medium fabric with a grey core, it is treated with a deep grey polish. The type is very common and is available from Pre-structural V to Sub-period I B. *Variant XVIa* has a segmented profile and is available from Sub-period I A and I B. *Variant XVIb* has an inturned featureless rim and less grooves on the body. It is available in Sub-period I B. Rājgīr affords parallels (cf. *Rājgīr*, p. 76, fig. 5, 26). *Variant XVIc* lacks the grooves of the main type and is available in Sub-period I A and continues upto Sub-period I B.

Type XVII. Deep bowl of grey ware with a vertical featureless rim, incurved and rippled sides. Of medium fabric with grey core, it is treated both externally and internally with a black slip. The type is a fairly common one and is available from Pre-structural I to Sub-period II.

Type XVIII. Miniature bowl of grey ware with a vertical featureless rim and a convex base. Of medium fabric with grey core, it is treated both externally and internally with a black slip. The type occurs in Pre-structural II.

Type XIX. Bowl of grey ware with a vertical featureless rim, slightly tapering sides and a flat base. Of coarse fabric with dark grey core, it is treated both externally and internally with a buff grey slip. The type is a common one and is available from Pre-structural V to Sub-period III.

Type XX. Bowl of grey ware with a vertical featureless rim and a carinated profile. Of coarse fabric with grey core, it is treated both externally and internally with a black slip. The type is available from Pre-structural V to Sub-period I A.

Type XXI. Bowl of grey ware with a vertical and sharpened rim and incurved sides. Of medium fabric with dark grey core, it is treated both externally and internally with an uneven layer of black slip. The type is a common one and is available from Sub-period I A to Sub-period III and is also found at Siśupālgarh.¹

Type XXII. Bowl of grey ware with an almost vertical rim. Of medium fabric with grey core, it is treated both externally and internally with a black slip. The type is not a common one and occurs from Sub-period I A.

Type XXIII. Dish of grey ware with a slightly sharpened rim. Of fine fabric with consistently graded grey core, it is treated both externally and internally with a bright black slip. The type is not an uncommon one and is available from Pre-structural I to Sub-period II but with larger frequency in Sub-period I A.

Type XXIV. Dish of grey ware with a vertical internally thickened rim and incurved sides. Of medium fabric with grey core, it is treated both externally and internally with a black slip. The type is a fairly common one and has a long duration. It occurs in all Sub-periods from Pre-structural I to Sub-period II.

Type XXV. Dish of grey ware with an incurved sharpened rim, grooved at the top. Of coarse fabric with grey core, it is treated only externally with a dull black slip. The type is available in Pre-structural II.

Type XXVI. Dish of grey ware with an incurved featureless rim. Of fine fabric, it is treated on the inside with a bright black slip. The type is available from Pre-structural II to Sub-period I B.

Type XXVII. Dish of grey ware with an incurved featureless rim grooved externally. Of medium fabric with grey core, it is treated both externally and internally with a black slip. The type is available from Pre-structural IV upto Pre-structural V.

Type XXVIII. Dish of grey ware with an almost vertical internally sharpened rim and a sagger base. Of medium fabric, it is treated both externally and inter-

¹ *Ancient India* no. 5 (Delhi 1949), p. 81, fig. 6, 5.

nally with a coarse black slip. The type occurs from Pre-structural V to Sub-period I A.

Type XXIX. Dish of grey ware with a vertical featureless rim. Of medium fabric, it is treated with a grey slip on the outside and dull black on the inside. The type originates in Pre-structural V and continues upto Sub-period I A, being more numerous in earlier levels.

Type XXX. Deep dish of grey ware with slightly widening sides. Of medium fabric, it is treated both externally and internally with a dull black slip. The type occurs from Pre-structural V to Sub-period I B.

Type XXXI. Dish of grey ware with a vertical sharpened, internally grooved rim and sides carinated to possibly a flat base. Of medium fabric, it is treated both externally and internally with a buff grey slip. The type occurs in Pre-structural V and continues upto Sub-period III.

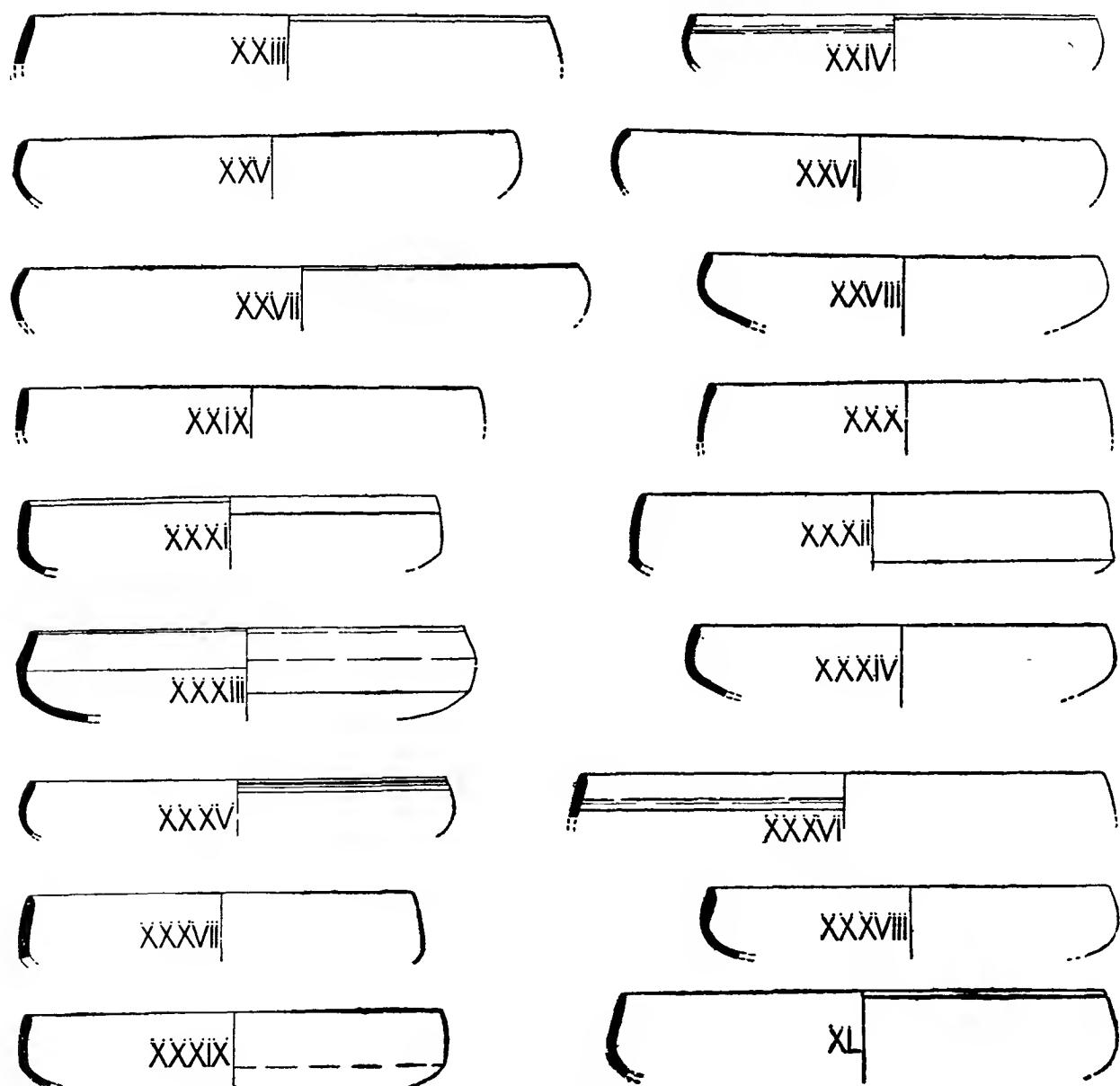


FIG. 16

Type XXXII. Dish of grey ware with a vertical sharpened rim and prominently carinated towards the base. Of medium fabric, it is treated both externally and internally with a deep grey slip. The type occurs in all the Sub-periods from Pre-structural V to Sub-period III but is more frequent in Sub-period II (cf. *Rājgir*, p. 74, fig. 4, 13, *Ahichchhatrā*, p. 42, fig. 1, 8 and *Hastināpura*, p. 54, fig. 15, XV).

Type XXXIII. Dish with an incurved featureless rim, doubly carinated incurved sides and a sagger base. Of medium fabric, with grey core, it is treated with a black slip both externally and internally. The type is available in Sub-period I A.

Type XXXIV. Dish of grey ware with a vertical rim, incurved sides and a sagger base. Of medium fabric, it is treated with a black slip both externally and internally. The type occurs in Sub-period I A.

Type XXXV. Dish of grey ware with an incurved featureless rim and presumably a convex base. Of medium fabric, with grey core, it is treated with a greyish black slip both externally and internally. The type occurs from Sub-period I A to Sub-period II but is more numerous in the former.

Type XXXVI. Dish of grey ware with a slightly incurved sharpened rim. Of medium fabric, it is treated with a deep grey slip both internally and externally. The type is available from Sub-period I A to Sub-period II but is more numerous in the latter.

Type XXXVII. It is a variant of the above and comes from Sub-period IA.

Type XXXVIII. Dish of grey ware with a vertical internally sharpened rim. Of medium fabric, it is treated only externally with a slip. The type is a common one and occurs in all the levels from Sub-period I A to Sub-period II.

Type XXXIX. Dish of grey ware with a vertical rim, and sides carinated to a sagger base. Of medium fabric, it is treated on the interior with a chocolate-grey slip and on the outside with a black slip. The type is not a common one and occurs only in Sub-period I A.

Type XL. Dish of grey ware with an inturned sharpened rim and presumably a sagger base. Of medium fabric, it is treated both externally and internally with a black slip. The type is available from Sub-period I A to Sub-period II.

Type XLI. Basin of grey ware with a vertical nail-head rim, bevelled at the top and incurved sides. It is grooved externally. The type is available in Pre-structural II. *Variant XLIA* is multi-grooved externally. *Variant XLIB* has a more thickened rim. *Variant XLIC* seems to be deeper. Analogies in red ware come from Hastināpura (cf. *Hastināpura*, p. 58, fig. 17, XXVIII C).

Type XLII. Basin of grey ware with an in-curved externally collared and grooved rim and sharply incurved sides. Of medium fabric, it is treated both externally and internally with a slip. The type is a very common one and its continued use from Pre-structural V to Sub-period III bespeaks of its popularity. It is however more numerous in Sub-period I A and I B.

Type XLIII. *Handi* of grey ware with a vertical to slightly out-curved featureless rim, a concave neck, carinated body and a rounded base. Of coarse fabric,

it shows grey slip only on the internal surface. The slip on the external surface is comparatively darker and deeper. The type has probably a pre-N.B.P. origin but continues upto Pre-structural II

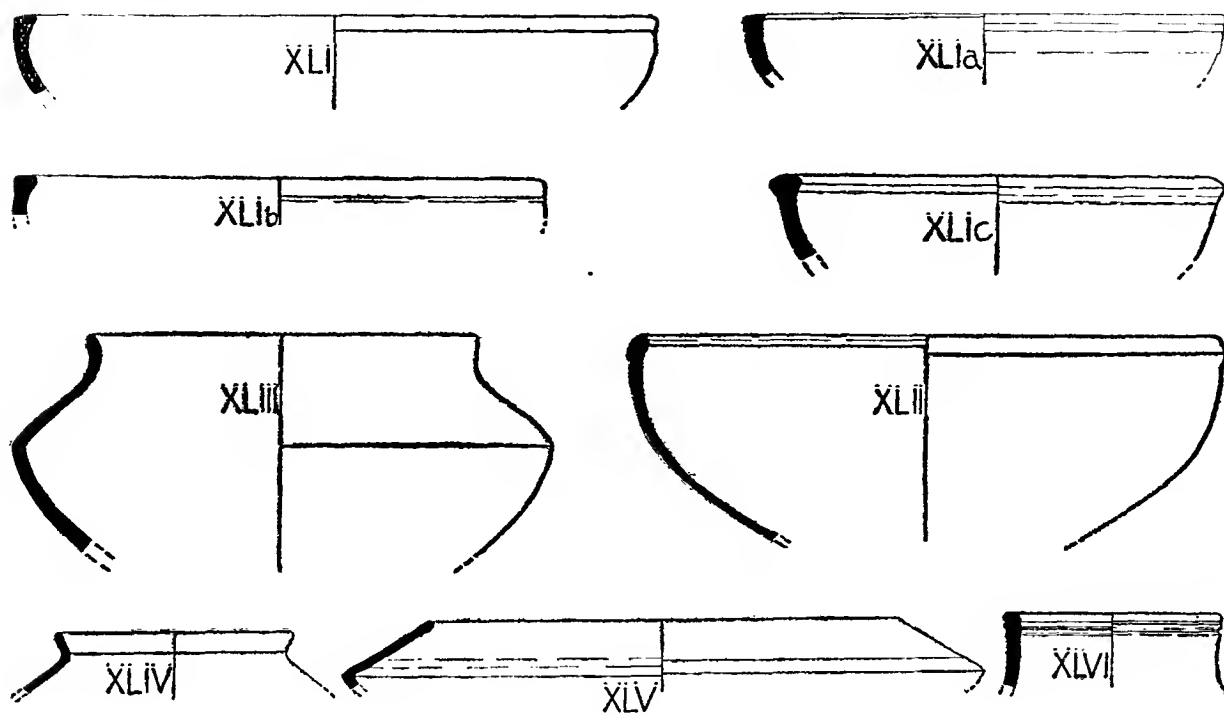


FIG. 17

Type XLIV. Vase of grey ware with an out-turned, featureless rim and a concave neck. In shape it roughly resembles type LVII of N.B.P. fabric. Of medium fabric, it is treated both externally and internally with a slip. The type begins in Sub-period I A and continues upto Sub-period III.

Type XLV. *Handi* with a closing rim and a sharply carinated body. It is a variant of types LI of N.B.P. ware and type X of plain grey. It occurs from Sub-period I A to Sub-period III but is more common in Sub-period II. Of coarse fabric, it is treated with a black slip both externally and internally. Analogies exist both at Ahichchhatrā and Hastināpura (cf. *Ahichchhatrā*, p. 42, fig. 1, 12 ; *Hastināpura*, p. 62, fig. 19, LI).

Type XLVI. Vase with a vertical externally grooved rim and straight neck. Of medium fabric, it is treated with a grey slip on the inside and black on the outside. The type occurs in Sub-period I B.

C. THE RED WARE

The red ware associated with the N.B.P. Ware is mostly of medium fabric containing sand particles, straw and husk in the paste. The clay used also does not seem to be well-prepared which further reduced the plasticity of the paste. Due to the presence of organic matter in the paste, the core often shows small cavities and fissures. It is usually, though not invariably, treated with a red slip which was ochrous in composition.

This ware provided the principal types in daily use of the people namely for cooking and storage purposes. Many vessels have been observed to be soot-stained, indicative of their use for cooking. It is noteworthy that the use of earthen vessels for domestic purposes persists in certain poor homes even in this century.

Like its more prominent associated industry, the N.B.P. Ware, a larger number of types of the red ware begin in the first occupational period itself, namely, Pre-structural I. Again Pre-structural V is a period of great creative activity in the life of this ware as in that of the N.B.P. and the grey wares and many new types are added. Most of the types die out before Sub-period II beyond which only 14 survive upto Sub-period III. Of these again, only seven are continued in subsequent Sub-periods. Two varieties of lids are obtained in this Period : (a) the bowl-shaped and (b) the basin-shaped (fig. 22, 89-92 respectively). Of these, the former are earlier than the latter and also occur in greater frequency in the earlier strata. The latter variety appear only towards the close of the Period and continues in the post-N.B.P. Ware levels also.

Some of the types namely, fig. 21, 44 and 53-60 show rough parallels at Tripuri (cf. *Tripuri*, p. 60, fig. 20, 93, 94, 96, and 98, and p. 61, fig. 21, 100 and 100a).

The following is a list of selected types in this ware :—

FIGS. 18-23

Type 1. Bowl with a sharply incurved hooked rim, and undulating tapering sides. The type is very common in all the Sub-periods and occurs from Pre-structural I to Sub-period I B. *Variant 1a* is smaller and the rim less sharply incurved. The type makes its first appearance in Pre-structural IV. *Variant 1b* has an almost vertical rim and is possibly deeper. The type comes from Pre-structural IV. *Variant 1c* has weakly corrugated sides. It is available from Pre-structural III to Sub-period I A. *Variant 1d* has a sharply undercut rim. *Variants 1e and 1f* are more common in Sub-periods I A and I B (cf. *Hastināpura*, p. 54, fig. 15, VIII f).

Type 2. Bowl with a horizontally splayed out featureless rim, tapering sides and a flat base. Of medium to coarse fabric showing a burnt black section due to insufficient firing, it is slipped both externally and internally with a red slip. The type is a fairly common one and is available from Pre-structural I to Sub-period I B.

Type 3. Bowl with an everted, internally bevelled rim and incurved sides. Of fine fabric, it is treated externally with a bright red slip. The earliest specimens of the type occur in Pre-structural I. The continued recurrence of the type till Sub-period III indicates its popularity.

Type 4. Bowl with an out-curved featureless rim, a short concave neck and a round body. It has fine to medium fabric and is treated both externally and internally with a bright red slip. The type is not a common one and occurs from Pre-structural I to Pre-structural II. Analogies occur at Rupar (cf. *Rupar*, p. 127, fig. 13).

Type 5. Bowl with a horizontally splayed out internally thickened rim which is further distinguished by an internal groove. The type occurs from Pre-structural IV to Sub-period I B.

Type 6. Bowl with a vertical featureless rim, incurved sides and a flat base. It has a medium fabric and is treated both externally and internally with a bright red slip. The type occurs in Pre-structural V.

Type 7. Bowl with an in-turned thickened rim and tapering sides. It has a coarse fabric, is indifferently fired and is treated with a red slip on the outside only. The type occurs from Pre-structural IV to Sub-period I B.

Type 8. Bowl with a splayed out drooping rim and tapering sides and a flattened base. It has medium to coarse fabric with bright red slip both on the outside and inside. The type is fairly common and occurs from Pre-structural V upto Sub-period I B.

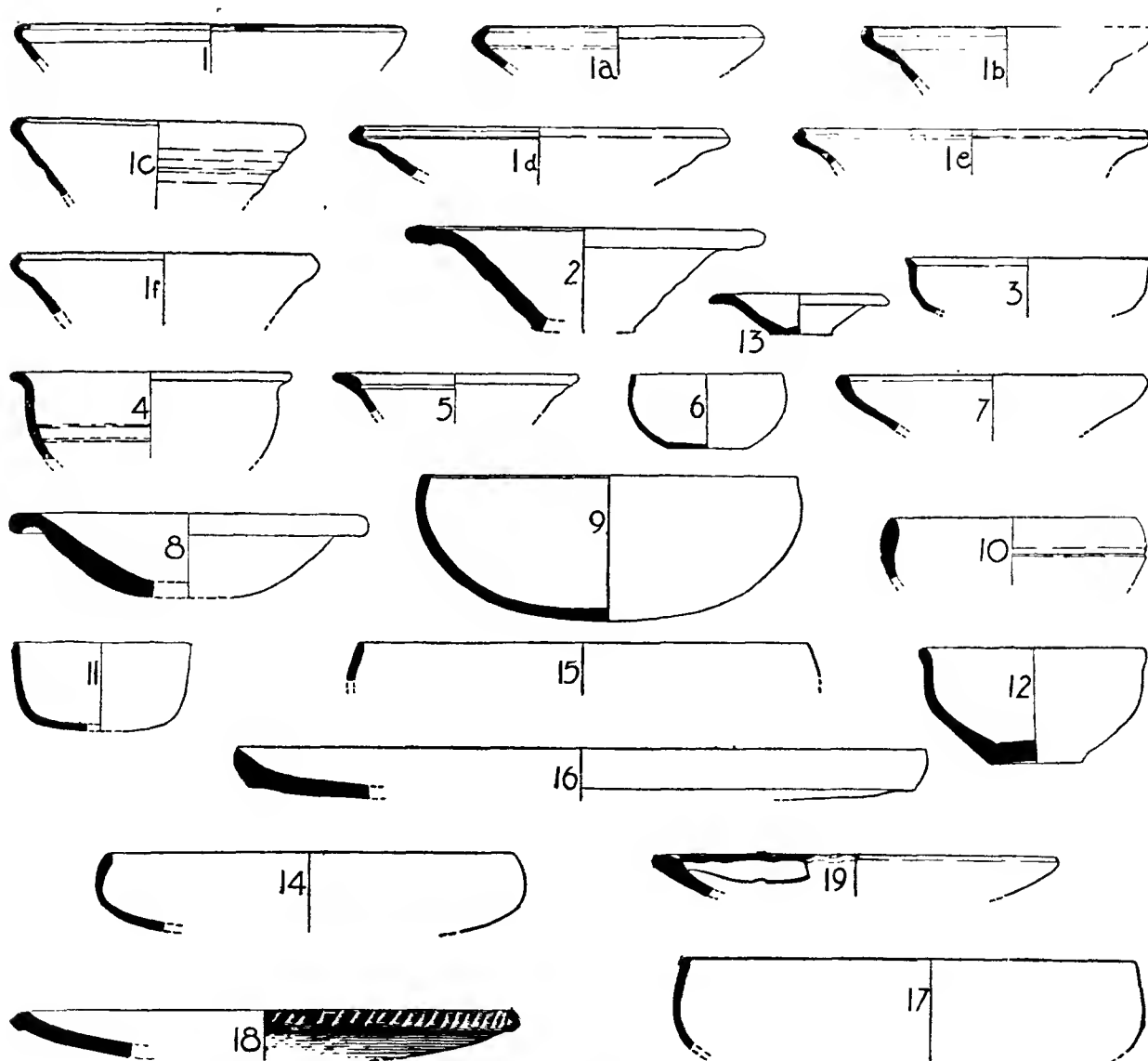


FIG 18

Type 9. Deep bowl with an almost vertical featureless rim, incurved sides and a convex base. Of medium fabric, it is treated both externally and internally with a slip. The type is very common and occurs from Sub-period II to VIII.

Type 10. Bowl with a vertical sharpened rim externally grooved. Of medium fabric, it is treated externally with a red slip. The type occurs from Pre-structural IV to Sub-period II.

Type 11. Bowl with a vertical featureless rim, slightly tapering sides and a convex base. The type comes from Sub-period I A.

Type 12. Bowl with a slightly out-curved featureless rim, incurved sides and a flat base. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs in Sub-period II.

Type 13. Small bowl with a flaring and internally thinned rim, tapering sides and a flat base. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs in Sub-period II.

Type 14. Dish with an incurved featureless rim, and a sagger base. Of fine fabric, it is treated both externally and internally with a red slip. It is available from Pre-structural I to Sub-period II but is more common in Sub-period I A.

Type 15. Dish with a slightly in-turned featureless rim. Of coarse fabric, it is treated with a mere wash. The clay is coarse and full of organic material.

Type 16. Shallow dish with a vertical sharpened rim and a flat base. The type occurs from Pre-structural I to Sub-period I B.

Type 17. Dish with a vertical rim and incurved sides. Of fine fabric, with grey to red core, it is treated both externally and internally with a red slip. The type occurs from Pre-structural IV to Sub-period II but is more common in Pre-structural IV.

Type 18. Shallow dish with an out-turned rim decorated with obliquely-cut deep incision. Of coarse fabric, it is treated both externally and internally with a red slip. The type is available from Pre-structural III to Sub-period I B.

Type 19. Shallow dish with an internally thickened rim which is decorated with a finger tip design in applique. Of medium fabric, it is treated both externally and internally with a red slip. The type, particularly the decorative design, is very common.

Type 20. Basin with an incurved externally collared rim also externally grooved. Analogies exist at Hastināpura (cf. *Hastināpura*, p. 58, fig. 17, XXVI). It is one of the commonest basin type. *Variant 20 a* lacks the incurved rim. Of coarse fabric, it is without any slip. The type occurs from Pre-structural II to Sub-period I A. *Variant 20 b* has an externally chamfered rim, separated from the body by a prominent groove. It has a tapering profile. Of coarse fabric, it is treated with a dull red slip both externally and internally. The type occurs in Pre-structural II and continues upto Sub-period I A. *Variant 20 c* does not have the pronounced collar. Of medium fabric, it is treated both externally and internally with a dull red slip. The type begins in Pre-structural II and continues upto Sub-period I A. *Variant 20 d* has a vertical thickened rim. It belongs to Pre-structural

II. *Variant 20 e* has an externally oval collared rim. Of medium fabric, it is treated with a mere wash. It is also paralleled at Rājgir (cf. *Rājgir*, p. 74, fig. 4, 9). The type is very common and occurs in all levels from Pre-structural II to Sub-period II. *Variant 20 f* is distinguished by a concavity below the rim and seems to be deeper. The type begins in Pre-structural II and continues upto Sub-period I B and is also available at Hastinapura (cf. *Hastināpura*, p. 6, fig. 16, XXI-XXIII).

Type 21. Basin with a vertical thickened rim. Of medium fabric with grey core, it is without any slip. The type occurs from Pre-structural I to Sub-period I A and is also found at Hastinapura (cf. *Hastināpura*, p. 56, fig. 16, XXc).

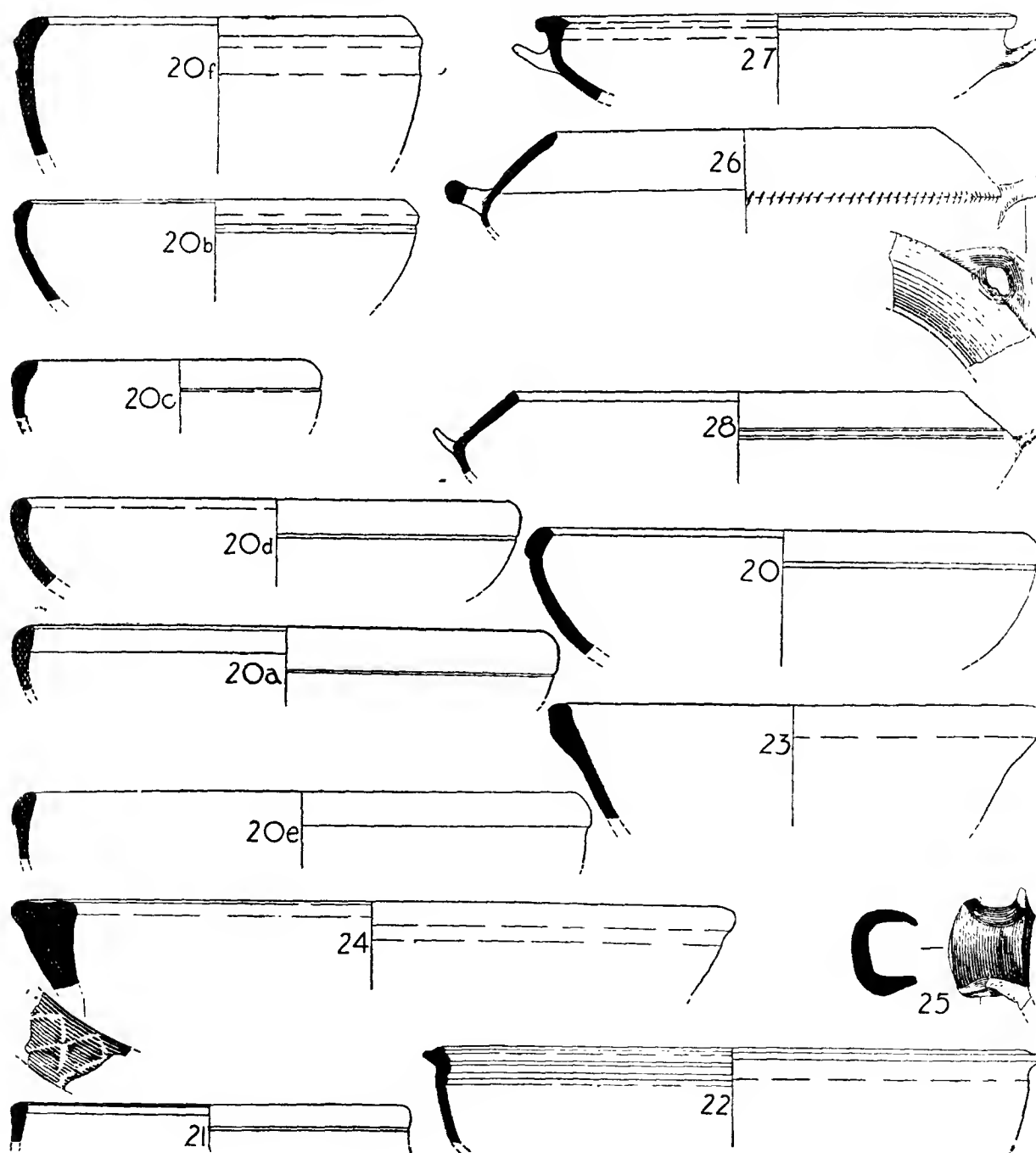


FIG. 19

Type 22. Basin with an out-turned thickened internally grooved rim. Of coarse fabric with a grey core, it is without any slip. The type occurs from Pre-structural I to Sub-period I A.

Type 23. Basin with a slightly out-turned externally thickened rim and tapering sides. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs from Pre-structural V to Sub-period II.

Type 24. Basin with a thickened rim, incised at the top with a cheque pattern. Of coarse fabric, it is indifferently fired. The type begins in Pre-structural V and continues upto Sub-period II. Analogies exist at Tripuri (cf. *Tripuri*, p. 55, fig. 17, 63-68).

Type 25. Lip of a basin. Of fine fabric, it is treated both externally and internally with a red slip. The type occurs in Pre-structural III.

Type 26. Vase with an in-turned featureless rim, closing sides and a carinated body with a strap handle. The effect of carination is sought to be concealed by parallel oblique incisions on the meeting of the planes. Soot sticks heavily to the base and lower portion of the body. It is treated both externally and internally with a red slip. The type is a common one and occurs from Pre-structural I to Sub-period I B.

Type 27. Basin with a vertical, flattened, nail-head rim, small inclined walls and a presumably concave base. It is further distinguished by two triangular handles. Of medium to coarse fabric, it is treated both externally and internally with a bright red slip. The entire base is soot-affected. The type begins in Pre-structural III and continues upto Sub-period II.

Type 28. Vase with a closing featureless rim and a sharply carinated body having two lug handles at the carination. It is further, distinguished by two grooves above the carination. Of coarse fabric, a gritty core full of sand particles, it is treated both externally and internally with an ochre red slip. The type occurs in Pre-structural IV.

Type 29. Vase with an out-turned featureless rim and slightly carinated body. The shoulder part of the body is painted with black bands over red surface. The base is soot-affected, indicative of its use for cooking purposes. Of fine to medium fabric, it is treated with a dull red slip. The type seems to be pre-N.B.P. Ware in origin and is available from Pre-structural I to Pre-structural V.

Type 30. Vase with an out-turned externally thickened rim. The painting in this case is still bolder and occurs on the inside of the rim too. The type begins in Pre-structural I and continues upto Pre-structural V.

Type 31. Vase with an out-curved featureless rim, a concave neck and a slightly carinated body. Of coarse gritty fabric, it is treated both externally and internally with a bright red slip. The burnt base proves that it was used for cooking purposes. The carinated girth is decorated with oblique, incisions. The type occurs from Pre-structural II to Sub-period I B.

Type 32. Vase with an out-turned featureless rim and a short concave neck. The type occurs from Pre-structural V to Sub-period I A.

Type 33. Vase with an out-turned featureless rim and a concave neck. The type occurs from Sub-period I A upto Sub-period I B.

Type 34. Vase with an out-turned obliquely cut rim, a concave neck, an inconspicuously ledged shoulder, round uneven body and a convex base. Of medium fabric, it is treated with a red slip.

Type 35. Vase with a splayed out obliquely cut rim, carinated neck, a ledged shoulder and a rounded body. Of medium fabric, it is treated with a red slip. The type is very common and occurs from Sub-period II to Sub-period VI.

Type 36. Vase with a clubbed rim, a concave shoulder, prominently ledged at the junction with the body. Of medium fabric, it is treated with a bright red slip only on the outside. The type occurs from Pre-structural II to Sub-period I B.

Type 37. Vase with a horizontally splayed out rim, perched directly on the body. Of medium fabric, it is treated with a bright red slip. The type occurs from Pre-structural II to Sub-period I B.

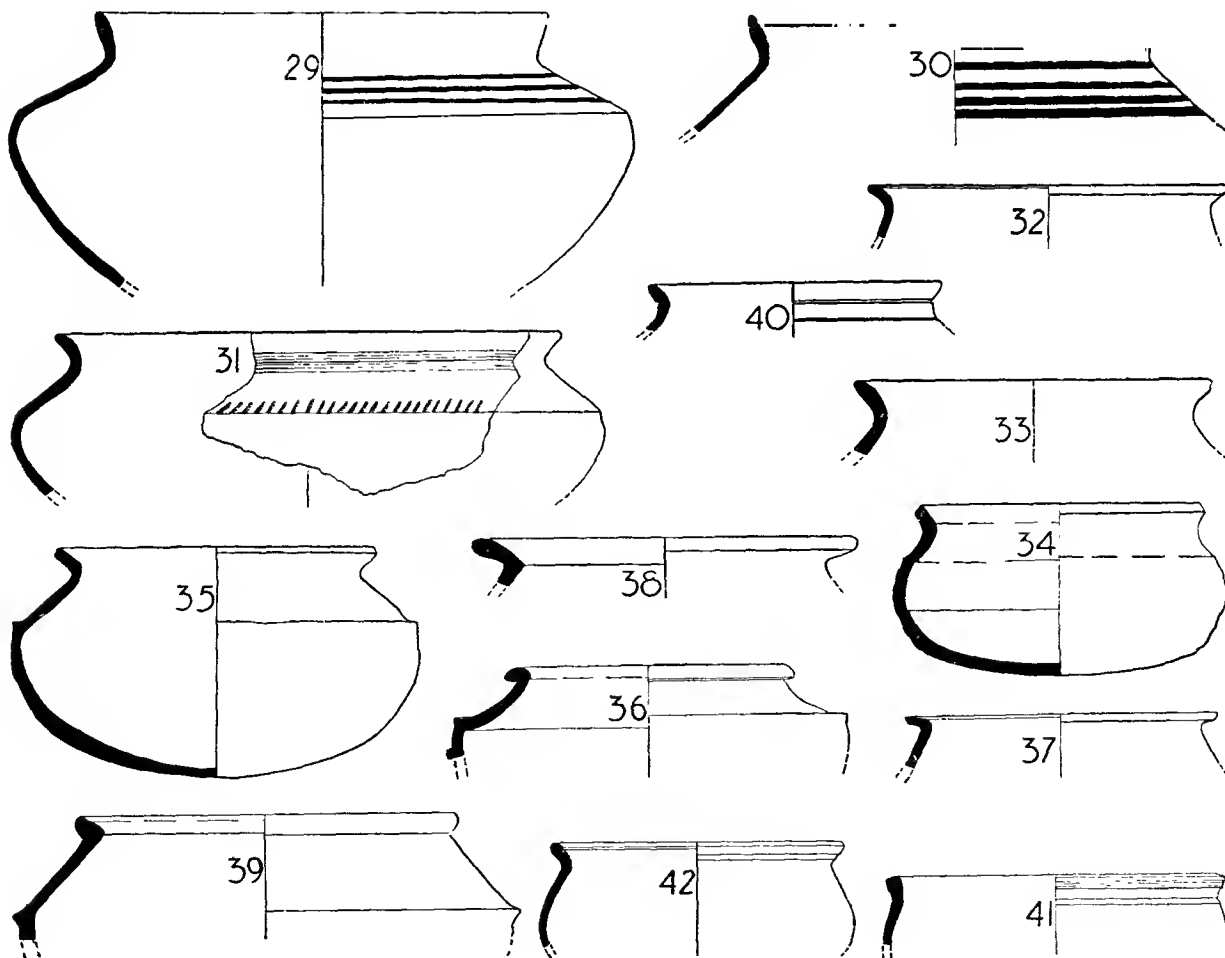


FIG. 20

Type 38. Vase with a splayed out, externally thickened rim, set in sharp carination directly on the body. Of medium fabric, it is treated with a bright red slip. The type begins in Pre-structural V and continues upto Sub-period I B.

Type 39. Vase with a sharply out-turned thickened rim, a carinated neck and a prominent ledge at the girth. Of medium fabric, it is treated with a pale red slip. This was also used as a cooking vessel as evidenced by the soot on some parts of the body. The type is available in Sub-period II.

Type 40. Fragment of a vase with an out-turned featureless rim and an internally grooved concave neck. Of medium to coarse fabric, it is treated both externally and internally with a bright red slip. The type occurs from Pre-structural II upto Sub-period I B.

Type 41. Vase-cum-deep bowl with a slightly out-turned and externally thickened rim and convex sides. The type occurs from Pre-structural II to Sub-period I B.

Type 42. Vase with an out-turned internally grooved rim, a concave neck and a globular body. Of medium fabric, it is treated both externally and internally with a bright red slip.

Type 43. Vase with an out-curved featureless rim, a concave neck, a globular body and a convex base. The shoulder is decorated with oblique indentation. Of coarse fabric, it is treated with a mere wash. The pot was used for cooking purposes as seen by the soot which sticks right upto the rim. The type belongs to Pre-structural I.

Type 44. Vase with a vertical to incurved featureless rim, a short or undefined neck, an ovoid pear-shaped body and a convex base. It has a very light body with thin walls, is one of the commonest types at Kauśāmbī and is quite widespread (cf. *Hastināpura*, p. 60, fig. 18, XXXI; *Rūpar*, p. 127, fig. 5, 16, *Rājgir*, p. 76, fig. 5, 17; *Ahichchhatra* p. 42, fig. 1, 100, and *Taxila*, III pl. 122, 32). *Variant 44a* (not illustrated) lacks the pronounced internal concavity of the rim. The type belongs to Sub-period I B. *Variant 44b* has a vertical externally collared rim. *Variant 44c* has an externally ridged rim. *Variants 44d and 44e* have slightly modified rims than obtained in the preceding example.

Type 45. Vase with a vertical externally thickened rim, an elliptical body with a presumably lower girth. Of medium fabric, it is treated with a dull red slip. The type occurs from Pre-structural I to Sub-period I A.

Type 46. Vase with an externally collared and undercut rim. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs from Pre-structural I to Pre-structural V. It is also available at Hastinapura (cf. *Hastināpura*, p. 60, fig. 18, XXXI).

Type 47. Vase with a vertical rim externally thickened and obliquely cut, a concave neck and an ovoid body. Of medium fabric, it is treated both externally and internally with a red slip. The type is available from Pre-structural I to Sub-period I A.

Type 48. Vase with a vertical externally collared rim. Of medium fabric, it is treated with a bright red slip. The type occurs from Pre-structural I upto Sub-period II.

Type 49. Fragment of a vase with a vertical externally collared and undercut rim. Of medium to coarse fabric, it is treated both externally and internally with a red slip. The type is a common one and occurs from Pre-structural I to Sub-period I A.

Type 50. Vase with an out-turned externally thickened rim, and a vertical corrugated neck. Of medium to coarse fabric, it is treated externally with a dull red slip. It shows traces of indifferent firing and is burnt black inside. The type occurs from Pre-structural I to Sub-period I B.

Type 51. Jar with an out-curved featureless rim, a concave neck and an oblique shoulder. Of medium to coarse fabric, indifferently fired, it is treated both externally and internally with a bright red slip. The type begins in Pre-structural I and continues upto Sub-period I A.

Type 52. Jar with an out-curved featureless rim, medium fabric and a slipped body. *Variants 52b and 52c* have slightly modified rims. The type with variants persisted in all the Sub-periods from Pre-structural I upto Sub-period I A.

Type 53. Fragment of a jar with an out-turned externally thickened rim. Of medium fabric, it is treated with a red slip. The type occurs in Pre-structural I.

Type 54. Fragment of a jar with a splayed out, featureless rim, and a constricted neck. Of medium fabric, it is treated both externally and internally with a dull red slip. The type occurs from Pre-structural I upto Sub-period I A.

Type 55. Fragment of a jar with a vertical to incurved rim and a concave neck. Of medium fabric, with gritty reddish core, it is treated with a dull red slip both externally and internally. The type is a fairly common one and occurs in Pre-structural I.

Type 56. It is a variant of the above with an externally thickened rim. The type occurs in Pre-structural I. *Variant 56a* differs from the above in being less incurved. The type occurs from Pre-structural V to Sub-period II. *Variant 56b* has an out-turned externally collared rim which is also grooved internally.

Type 57. Fragment of a jar with a vertical featureless rim, and a concave neck. The type occurs from Pre-structural I upto Sub-period I B.

Type 58. Fragment of a jar with a vertical sharpened rim and a concave neck. Of coarse fabric, it is treated both externally and internally with a red slip. The type is also common to grey ware, and begins in Pre-structural I and continues upto Sub-period I A.

Type 59. Fragment of a jar with a vertically collared rim and a concave neck. Of coarse fabric, it shows patches of dull red and grey. The type occurs from Pre-structural I to Sub-period II. Analogies exist at Śiśupalgarh, (cf. *Sisupalgarh*, p. 81, fig. 6, 20).

Type 60. Fragment of a jar with an almost vertical featureless rim. Of coarse fabric, it is treated with a dull red slip. The type occurs from Pre-structural I to Sub-period I B.

Type 61. Vase with a vertical externally double beaded rim and a long neck. Of medium to coarse fabric, it is treated with a wash. The surface is disfigured by

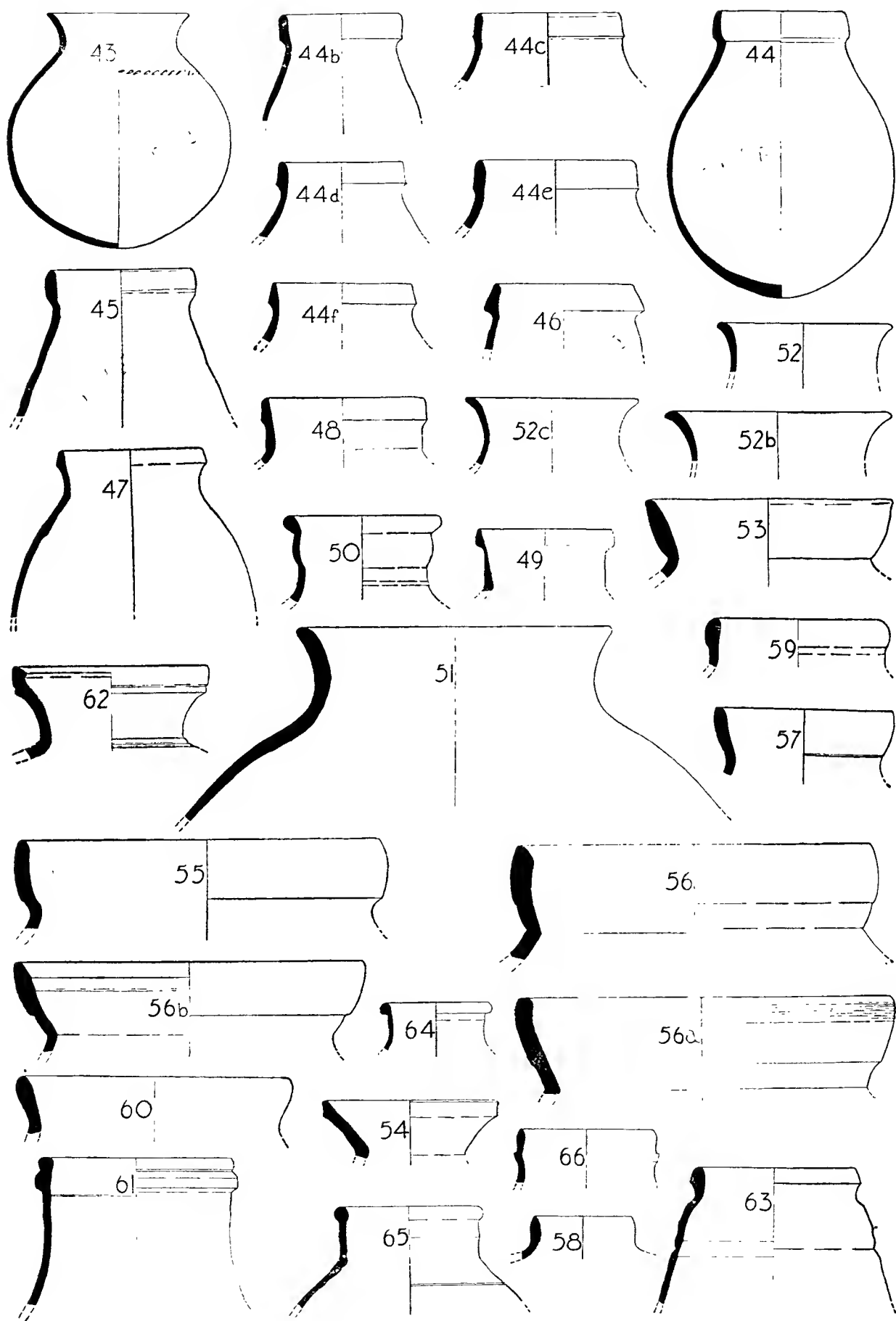


FIG. 21

small voids produced by the burning of husk and allied organic material present in the paste.

Type 62. Fragment of a vase with a vertical internally bevelled rim which is distinguished by a groove on the outside. Of medium fabric, it is treated with a red slip both externally and internally. The type occurs from Pre-structural I upto Sub-period II, and is paralleled at Ahichchhatra (cf. *Ahichchhatra*, p. 48, fig. 4, 49).

Type 63. Vase with an out-turned externally thickened rim, a short concave neck and corrugated shoulders. Of medium to coarse fabric, it is treated both externally and internally with a red slip. The type occurs from Pre-structural II to Sub-period I B.

Type 64. Fragment of a jar with a vertical externally beaded rim. Of fine fabric, it is treated both externally and internally with a deep chocolate slip. The type occurs from Pre-structural II to Sub-period I B.

Type 65. Vase with a vertical round nail-head rim and a long corrugated neck. Of medium fabric, it is treated both externally and internally with a red slip. The type originates in Pre-structural II and continues upto Sub-period I A.

Type 66. Fragment of a jar with a vertical sharpened rim prominently ridged on the neck. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs from Pre-structural II to Sub-period I B.

Type 67. Vase with a slightly incurved featureless rim, a concave neck and an oblique shoulder. The type begins in Pre-structural II and continues upto Sub-period I B.

Type 68. Vase with an out-turned externally thickened and vertically cut rim, a concave neck and an elliptical body. Of medium fabric, it is treated both externally and internally with a red slip. The type begins in Pre-structural II and continues upto Sub-period I B, it is also found at Hastināpura (cf. *Hastināpura*, p. 60, fig. 18, XXXIh).

Type 69. Fragment of a vase with a vertical externally multi-ridged rim. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs from Pre-structural II to Sub-period I A.

Type 70. Fragment of a jar with a flared out externally clubbed rim which is further distinguished by two ridges. Of medium to coarse fabric, insufficiently fired, it is treated both externally and internally with a red slip. The type was commonly used and occurs from Pre-structural II to Sub-period I A.

Type 71. Fragment of a jar with a vertical rim imitating the features of the previous example. The type occurs in Pre-structural II and continues upto Sub-period I A.

Type 72. Fragment of a jar with an out-turned, thickened rim. Of coarse fabric with greyish core it is treated with an ochrous slip on the outside.

Type 73. Fragment of a jar with a vertical externally thickened and ridged rim. Of medium fabric with ashy dark core due to insufficient firing, it is treated with a red slip. The type occurs in Pre-structural III.

Type 74. Fragment of a jar with a vertical round collared rim. Of coarse fabric, insufficiently fired, it is treated internally and externally with a red slip. The type occurs from Pre-structural IV to Sub-period I B.

Type 75. Fragment of a large jar with a slightly modified rim than that of No. 74. Of coarse fabric, it is treated both externally and internally with a red slip. The type occurs from Pre-structural IV to Sub-period I B.

Type 76. Pear-shaped vase with a vertical to inclined rim, externally thickened, a grooved shoulder and a lower girth. Of medium fabric, it is treated both externally and internally with a red slip. The type more appropriately belongs to the family of type 45 and is paralleled at Ahichchhatra (cf. *Ahichchhatra*, p. 42, fig. 1, 10 b also *Hastināpura*, p. 60, fig. 18, XXXI b). The type occurs from Pre-structural V to Sub-period I B.

Type 77. Vase with a vertical externally thickened, obliquely bevelled rim perched directly on the body. Of medium fabric, it is treated both externally and internally with a red slip.

Type 78. Vase with a slightly out-turned featureless rim, a ribbed neck, and a ledged shoulder. Of medium fabric, it is treated with a bright red slip both externally and internally. The type belongs to Pre-structural V.

Type 79. Fragment of a thick jar with an out-turned externally thickened rim and a short vertical neck. Of medium to coarse fabric, insufficiently fired, it is treated both externally and internally with a red slip. The type is a common one and occurs from Pre-structural V to Sub-period III.

Type 80. Fragment of a jar with an out-curved externally thickened rim. Of medium fabric, it is treated both externally and internally with a slip. The type occurs from Pre-structural V to Sub-period I B.

Type 81. Vase with an out-turned sharpened rim and a concave neck. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs from Pre-structural V to Sub-period II.

Type 82. Vase with an out-turned, featureless rim, carinated neck, an oval body bulging in the middle and a flat base. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period I A. Analogies exist at Hastināpura in period IV (cf. *Hastināpura*, p. 64, fig. 20, XXVI).

Type 83. Fragment of a jar with a vertical rim, externally thickened and grooved. The type occurs in Sub-period I A.

Type 84. Fragment of a jar with a slightly out-turned internally thickened and pointed rim. The type occurs in Sub-period I A.

Type 85. Fragment of a jar with an out-curved, internally thickened rim and a concave neck. Of medium fabric, it is treated both externally and internally with a slip. The type occurs from Sub-period I A to Sub-period IV and is available also at Hastināpura (cf. *Hastināpura*, p. 60, fig. 18, XXIV).

Type 86. Fragment of a jar with an out-curved clubbed rim and a concave neck. Of medium fabric with plenty of husk and organic material, it is treated both

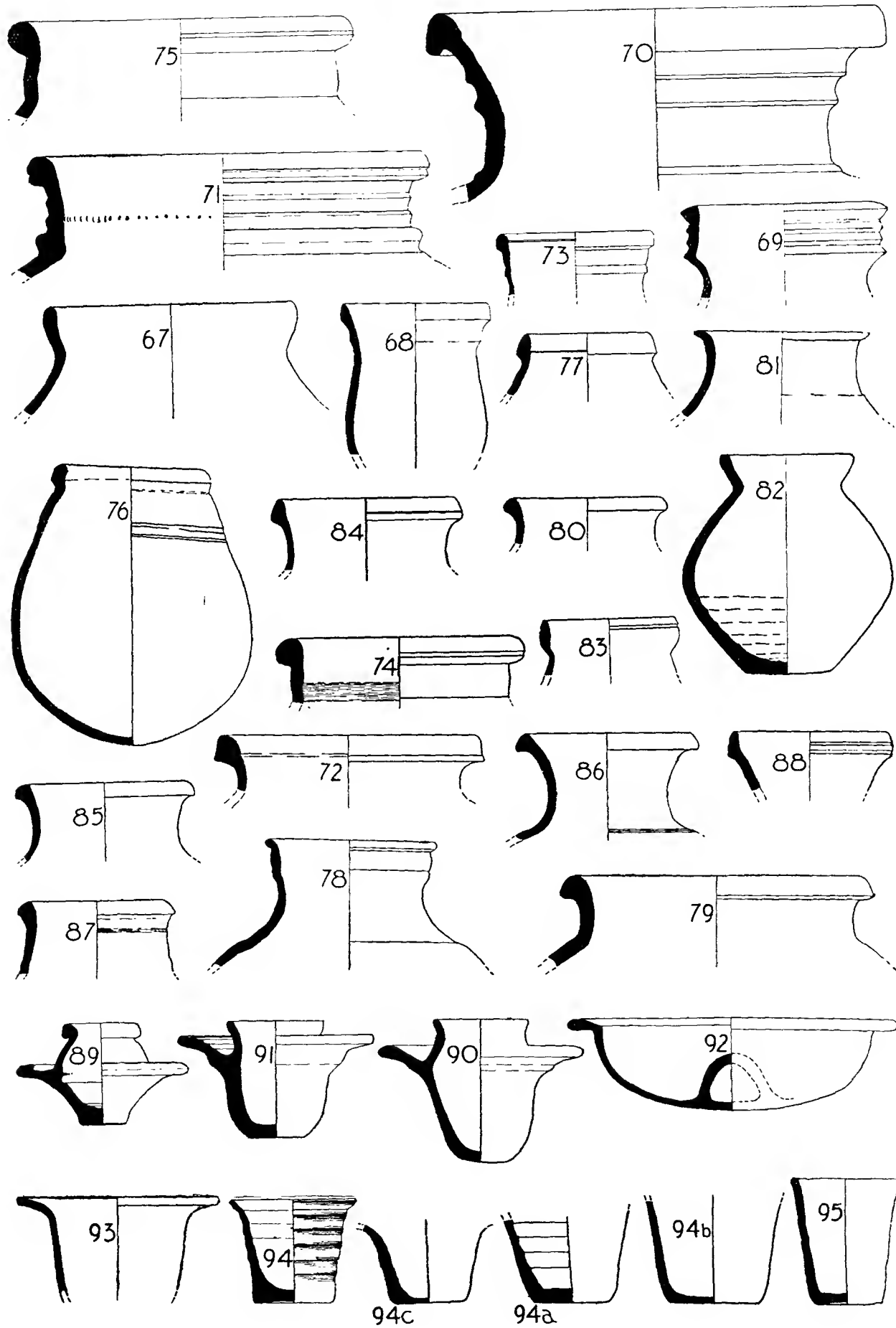


FIG. 22

externally and internally with a red slip. The type is a very common one and occurs from Sub-period II to VII.

Type 87. Fragment of a jar with an out-turned externally thickened rim and a vertical grooved neck. Of medium fabric, it is treated both externally and internally with a dull red slip. The type occurs from Sub-period II to III.

Type 88. Fragment of a jar with a vertical externally grooved rim and a tapering neck. The type begins in Sub-period II and continues upto Sub-period V.

Type 89. Lid with a sharply out-turned externally thickened rim, horizontally flanged waist and a flat base. Of medium fabric, it is treated both externally and internally with a red slip. The illustrated specimen occurs in Pre-structural II and continues upto Sub-period I B.

Type 90. Bowl-shaped lid with an out-turned featureless rim and an oblique flanged waist. Of medium fabric, it is treated both externally and internally with a bright red slip. The illustrated specimen occurs in Sub-period I B and continues upto Sub-period III. The type survives in a diminutive form in later Sub-periods.

Type 91. Bowl-shaped lid with a slightly out-turned featureless rim and a grooved flange. Of medium fabric, it is treated with a bright red slip both externally and internally. The type occurs from Pre-structural V to Sub-period II.

Type 92. Basin-shaped lid with a horizontally splayed internally thickened rim, incurved sides and a convex base the inner side of which is distinguished by a strap handle. Few specimens of this type are available. The type first occurs only in Sub-period II and continues up to Sub-period VIII.

Type 93. Tumbler with a flaring featureless rim and roughly vertical sides. Of medium fabric, it is treated with a bright red slip both externally and internally. The type is a fairly common one. The illustrated specimen occurs in Pre-structural I but with its variants continues upto Sub-period II.

Type 94. Tumbler with a slightly out-turned featureless rim, internally and externally corrugated sides and a flat base. Of medium fabric, it is treated both externally and internally with a red slip. The illustrated type occurs in Pre-structural I. *Variant 94 a* lacks the external corrugation of the sides and belongs to an earlier period. *Variant 94 b* lacks the corrugation of the main type. The type occurs from Pre-structural V to Sub-period I A. *Variant 94 c* shows part of the outcurved rim. The illustrated specimen occurs in Sub-period II. It is also found at Rupar (cf. *Rūpar*, p. 127, fig. 5, 8).

Type 95. Tumbler approaching very near the modern metal tumblers in shape. It has a vertical featureless rim, long tapering sides and a flat base. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs in Sub-period I B.

Type 96. Miniature vase with an out-turned featureless rim, concave neck, a prominent bulged body and a flat base. Of medium fabric, it is treated both externally and internally with a dull red slip. The type is available only in Pre-structural I.

Type 97. Miniature vase with an out-turned featureless rim, thin walls and a globular body. Of medium fabric, it is treated both externally and internally with a red slip. The type begins in Pre structural I and continues upto Sub-period I B.

Type 98. Miniature bowl with a vertical featureless rim, thickened section and a flat base. It is unbaked and belongs to Pre-structural I.

Type 99. Fragment of a small vase with incurved sides and a flat button base. The type begins in Pre-structural IV and continues upto Sub-period II.

Type 100. Miniature vase with a vertical everted rim, externally grooved neck and a round body. Of medium fabric, it is treated externally with a red slip. The type begins in Pre-structural IV and continues upto Sub-period II.

Type 101. Vase with an out-turned externally thickened rim and a globular body. Of medium fabric, it is treated with a wash. It belongs to Pre-structural V.

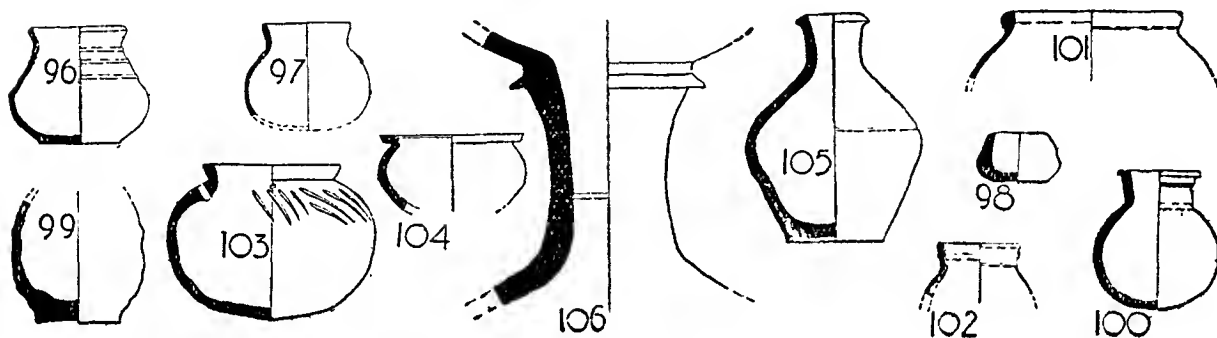


FIG. 23

Type 102. Fragment of a miniature vase with an out-turned featureless rim. Of fine fabric, it is treated internally with a bright red slip.

Type 103. Miniature vase with an out-turned featureless rim and a globular body. The upper part of the body is decorated with incised oblique lines arranged in four groups. There are four holes immediately below the neck meant for suspending the vase with the help of strings. Of medium fabric, it is treated both externally and internally with a slip. It is a unique specimen and comes from Sub-period I B.

Type 104. Miniature vase with a horizontally splayed out rim, and a globular body. Of medium fabric, it is treated both externally and internally with a bright red slip. The type occurs from Sub-period I A to Sub-period III.

Type 105. Vase with an out-turned externally thickened rim, vertical concave neck, bulged profile and a flat base. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period II.

Type 106. Hollow cylindrical stand of which both the upper and lower parts are missing. Of medium fabric, it is treated with a bright red slip.

4. PERIOD III

The pottery from this period covering Sub-periods III—VIII is essentially of red ware which is superior in fabric, finish and firing than that of the preceding

period. The paste for this ware was prepared out of *kabis*, a local clay containing a heavy percentage of iron. Sub-period V is very remarkable in this period since apart from the introduction of many new features, it also provided a new fabric, namely, the chocolate red slipped ware. This constitutes a distinct sub-group. A few black slipped pots were also found from this strata. These are absolutely dissimilar from the N.B.P. Ware and their presence need not, therefore, be emphasised.

The notable feature of the period that merits attention is the introduction of carinated waisted vases (fig. 34, 176-190) and the forms with flat, ring and footed bases (fig. 34, 191-95). These features strike a new note in the pottery of Kauśāmbī and are evidently the result of a new impulse. A few types with similar bases make their appearance at other sites also in the Gangetic valley (cf. *Hastināpura*, p. 64, fig. 20, *XXIII* and *XXVIII*, *Ahichchhatra*, p. 47, fig. 3, 47, and *Rūpar*, p. 127, fig. 5, 13 and 24, and p. 128, fig. 6, 22 and 23). But their pre-disposing origins are to be sought outside this region. They were developed in the north-western India, principally at Taxila, under a certain historical context and have been found there in larger number and variety. With their prototypes in metal and stone they do not appear exotic in that region as in the Gangetic valley. To quote Sir John Marshall 'Beakers with deep flared mouths, frequently constricted at the neck were introduced by the Greeks and became popular under the Sakas and Parthians. Some of them are furnished with flat bases. Those with horizontal ribbing copied from metal prototypes appear to be characteristically Parthian' (cf. *Taxila*, II, p. 416). Carinated vessels were introduced at Taxila by the Parthians.

The *surāhi* type (fig. 31, 124) with a decorated handle appears out of place in the contemporary ware and is evidently a foreign import. It is closely paralleled by similar examples from Rupar (cf. *Rūpar*, p. 128, fig. 6, 18) and Ahichchhatra (cf. *Ahichchhatra*, p. 48, fig. 4, 52).

Most of the types discussed above were evolved in the north western India under the Greek and Saka-Parthian impact and were introduced into the plains of northern India by the Saka-Parthian and the Kushans. The evidence, therefore, is conclusive that sub-period V witnessed a new impact in ceramic industry and the source of the inspiration lay outside the Gangetic valley. It accords well with the evidence furnished by the terracotta figurines (above pp. 50-53, 60-65).

Adverting to the correspondence of pottery types with sites in central India notably Tripuri, it may be stated at the risk of repetition that some of the forms in bowls, dishes, carinated vases, *surahis* and lids are common to both the sites (cf. fig. 24, 14 and 26 ; fig. 26, 59-61, fig. 31, 118 and 125, and fig. 33, 132).

The following represent the range of types met with in this Period :—

(i) *Plain pottery* (figs. 24-34)

Type 1. Bowl with a vertical thickened rim, tapering sides and a flat bottomed base. Of medium fabric, it is treated both externally and internally with a red slip. The type begins in Sub-period III and continues upto Sub-period V.

Type 2. Miniature bowl with a vertical obliquely cut rim, slightly incurved sides, and a flat button base. Of medium fabric, it is treated with a red slip both externally and internally. The type occurs from Sub-period IV to Sub-period VI.

Type 3. Bowl with a flared out rim decorated with occasional finger tips, tapering sides and a flat base. The type is from Sub-period V.

Type 4. Bowl with an externally obliquely cut rim, tapering sides and a flat thickened base. From Pre-structural V.

Type 5. Miniature specimen of the above. From Sub-period V.

Type 6. Bowl with a little modified rim than that of the above. Of medium fabric, it is treated both externally and internally with a red slip. The type is a very common one and occurs from Sub-period V to Sub-period VIII.

Type 7. Medium-sized bowl essentially same as above excepting the base which is thinner. It occurs from Sub-period V to Sub-period VIII.

Type 8. Bowl with a vertical sharpened rim tapering sides and a flat base. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs from Sub-period V and continues upto Sub-period VI. Bowls of types 4 to 8 are closely paralleled at Hastinapura (cf. *Hastinapura*, p. 64, fig. 20, I and II).

Type 9. Bowl with a vertical featureless rim, slightly tapering sides and a flat base. Of medium fabric, it is treated both externally and internally with a red slip and shows mica particles on the surface. The type occurs from Sub-period V to Sub-period VIII.

Type 10. Bowl with a horizontally splayed out thickened rim, tapering sides and a flat base. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs in Sub-period V.

Type 11. Bowl with a splayed out externally thickened and grooved rim is also scalloped and shows oblique incision on the inside. The type is a unique one and occurs in Sub-period V.

Type 12. Bowl with a vertical and obliquely bevelled rim, tapering sides and a flat base. The type is a very common one and occurs from Sub-period VI to Sub-period VIII. It may be regarded as a guide type of the period.

Type 13. Bowl with a thickened rim. Of medium to coarse fabric, it is treated both externally and internally with a red slip. The type occurs in Sub-period VI.

Type 14. Miniature bowl with a vertical featureless rim and incurved sides constricted to a footed base. Of medium fabric, it is treated both externally and internally with a red slip. It is a very common type and occurs from Sub-period VI to Sub-period VIII.

Type 15. Fragment of a bowl or lid with a pointed base. Only two specimens were discovered and are highly misleading. The type belongs to Sub-period VI.

Type 16. Bowl with an internally corrugated sharpened rim, tapering sides, and a small footed base. The type belongs to Sub-period VII. The type is a very common one and may be regarded as a guide type of the period. Analogies exist at Tripuri (cf. *Tripuri*, p. 75, fig. 30, 174).

Type 17. Bowl with a splayed out rim of which the ends are decorated with deep finger tip design. Of medium fabric, it is treated with a red slip. The type comes from Sub-period VIII.

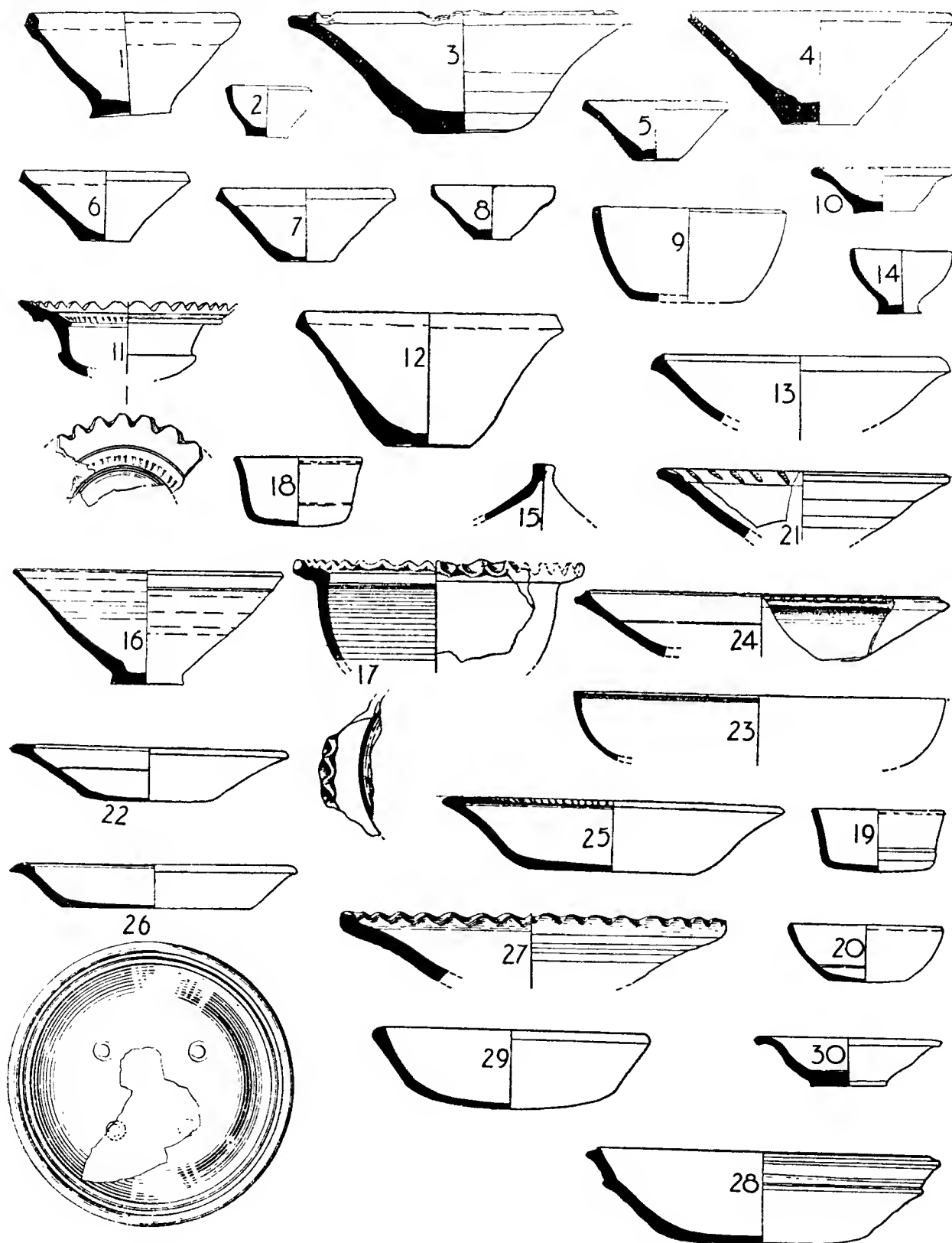


FIG. 24

Type 18. Bowl with a slightly out-turned featureless rim, almost vertical sides and a flattened base. Of medium fabric, it is treated both externally and internally with a red slip. The type belongs to Pit SB (1) equated to Sub-period VIII.

Type 19. Almost same as above but with a slight concavity in the lower portion of the sides. The type occurs in Sub-period VIII.

Type 20. Bowl with a vertical sharpened rim, incurved sides, and a flat base. Of medium fabric, it is treated both externally and internally with a chocolate red slip. The type is confined to the Pit SB (1), equated to Sub-period VIII.

Type 21. Bowl with a splayed out rim, decorated internally with deep oblique incisions and tapering sides. Of medium fabric, it is treated both externally and internally with a red slip. The type is a quite common one and occurs from Sub-period III to Sub-period VIII.

Type 22. Dish with a splayed out internally thickened and under-cut rim, tapering sides and a flat base. Of medium fabric, it is treated externally with a dull red and internally with a deep crimson slip. The type is a common one and occurs from Sub-period III to Sub-period VIII.

Type 23. Dish with a vertical internally thickened rim and incurved sides. Of fine fabric, it is treated all over with bright red slip. The fabric is reminiscent of polished red ware of Gujarat and western India. It belongs to Sub-period IV.

Type 24. Dish with a short vertical externally flanged rim, tapering sides and a presumably flat base. Of medium fabric, it is treated both externally and internally with a red slip. The type is fairly common and occurs from Sub-period V to Sub-period VIII.

Type 25. Dish with a splayed out internally thickened rim, decorated with oblique parallel incisions, slightly concave tapering sides and a flat base. Of medium fabric, it is treated externally with a dull red and internally with a crimson red slip. The type occurs from Sub-period VI to Sub-period VIII.

Type 26. Dish with an out-turned internally thickened rim, tapering sides and a flat base, on the internal side of which are punched four small circles. Of fine fabric, it is slipped all over with a red slip. The type is not a common one and occurs in Sub-period VII.

Type 27. Dish with a scalloped rim and slightly concave tapering sides. It is available in Sub-period VII.

Type 28. Dish with an out-turned rim which is grooved at the top, tapering sides, distinguished by a mid rib, and a flat base. Of medium fabric, it is treated with a reserve crimson red slip on the outside. The type occurs in Sub-period VII and continues upto Sub-period VIII.

Type 29. Dish with a thickened rim, tapering sides and a convex base. Of coarse fabric, it is treated all over with a dull red slip. The type is a common one and occurs in Sub-period VIII.

Type 30. Dish with a horizontally splayed out rim incurved sides and a thickened button base. Of coarse fabric, it is treated all over with dark ashy slip. The type occurs in Sub-period VIII.

Type 31. Basin with a clubbed rim and incurved sides. Of medium fabric, it is treated with dull red wash. The type is a very common one, and has its origin in N.B.P. Ware Period and continues upto Sub-period VIII. Roughly identical form is met with at Hastināpura (cf. *Hastināpura*, p. 56, fig. 16, XXII).

Type 32. Basin with a clubbed rim, deeply undercut, and with expanding sides. Of medium fabric, it is treated with a deep red crimson slip on the outside. The type is a common one and occurs from Sub-period III to Sub-period VIII.

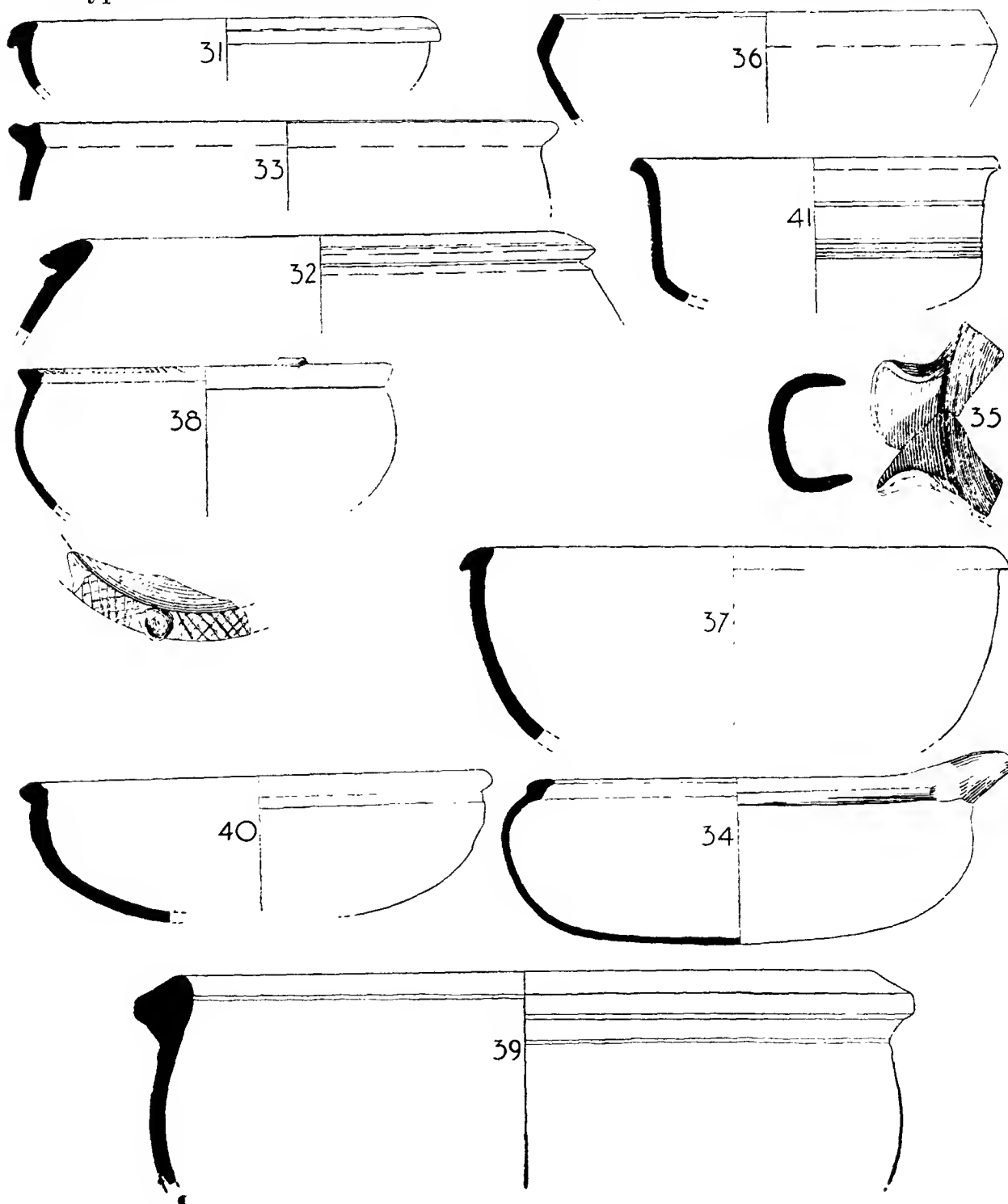


FIG. 25

Type 33. Basin with a flared out rim, marked internally with a ridge and almost vertical sides. Of medium fabric, it is treated both externally and internally with a red slip. The type is a very common one and occurs from Sub-period III to Sub-period VIII.

Type 34. Basin with a bud-shaped rim having a protruding lip, incurved sides and a flattened base. Of medium fabric, it is treated both externally and internally with a deep red slip. The type occurs from Sub-period III to Sub-period VIII.

Type 35. Lip of a basin. Of medium fabric, it is treated both externally and internally with a slip. The type is available from Sub-period III and continues upto Sub-period VIII.

Type 36. Basin with an inturned featureless rim and a carinated body. Of medium fabric, it is treated both externally and internally with a slip. The type occurs from Sub-period VI to Sub-period VIII.

Type 37. Basin with a nail-head rim and incurved sides, Of medium fabric, it is treated with a wash. The type occurs from Sub-period VI to Sub-period VIII.

Type 38. Basin with an out-turned internally thickened rim and a rounded body. The rim-top is decorated with criss-cross incisions above which are attached lamps at regular intervals. Of medium fabric, it is treated with a crimson redish slip. The type begins in Sub-period VI and continues upto Sub-period VIII.

Type 39. Basin with an out-turned clubbed rim and a round profile. Of coarse fabric, it is treated all over with a crimson slip. The type is a very common one and occurs from Sub-period VIII.

Type 40. Basin with an out-turned thickened rim with a groove immediately below, in-curved sides and a convex base. Of medium fabric, it is treated all over with a red slip. The type occurs in Sub-period VIII.

Type 41. Basin with an out-turned featureless rim, vertical externally grooved sides, and a convex base. Of medium fabric, it is treated all over with a red slip. The type occurs in Sub-period VIII.

Type 42. *Handi* with a clubbed rim, perched directly on a concave shoulder which is pierced at intervals with holes. Of medium fabric, it is treated all over with a deep crimson-red slip. The type occurs from Sub-period III to Sub-period V.

Type 43. *Handi* with an out-turned featureless rim, oblique shoulder, carinated at the junction of the body. Of medium fabric, it is treated with a reserve slip on the outside. The type occurs in Sub-period III.

Type 44. *Handi* with a flaring externally grooved rim. grooved shoulder decorated with stray indentation and a round body. Of medium gritty fabric, it is treated all over with crimson slip. The type occurs from Sub-period V to Sub-period VIII.

Type 45. *Handi* with an out-turned thickened rim, with a groove at the top, a short concave neck, a grooved shoulder, a lower girth and a convex base. Of medium fabric, it is treated all over with a bright red slip. The type occurs from Sub-period V to Sub-period VIII.

Type 46. Fragment of a *handi* with a splayed out and internally thickened and grooved rim and an ovoid body. Of coarse fabric with gritty well-burnt terra-cotta red core, it is treated on the outside with a red slip. On account of constant use, the slip from the inside has peeled off. The *handi* was perhaps used as a cooking vessel. The type occurs in Sub-period V.

Type 47. *Handi* with a horizontally splayed out featureless rim, prominently ledged at the mid-portion of the body and a convex burnt base. Of medium fabric, it is treated externally with a crimson slip. The type occurs from Sub-period V upto Sub-period VIII.

Type 48. *Handi* with a splayed out featureless rim, and oblique shoulders with a cordon at its junction with the body. Of medium fabric, it is treated externally with a chocolate slip. It was used as a cooking vessel as seen from the soot-smeared base. The type occurs from Sub-period V to Sub-period VII.

Type 49. *Handi* with a small clubbed rim on a concave shoulder, almost vertical externally grooved sides and a sagger base. Of medium fabric, it is treated with a red slip. The type is quite common and occurs from Sub-period V to Sub-period VII.

Type 50. *Handi* with a clubbed sharpened rim perched on oblique grooved shoulders. It is further characterised by a carination and a ledge. Of medium fabric, it is treated with a chocolate red slip. The type begins in Sub-period V and continues upto Sub-period VIII.

Type 51. Bowl-shaped vase with a vertical internally thickened rebated rim, ribbed body, and a presumably sagger base. Of medium fabric, it is treated with a crimson red slip. It was used as a cooking vessel. The type occurs from Sub-period V to Sub-period VII.

Type 52. Vase with an out-turned featureless rim, a carinated neck and round body. Of medium fabric, it is treated with a crimson red slip. The type begins in Sub-period V and continues upto Sub-period VII.

Type 53. *Handi* with a splayed out rim, concave neck, an inconspicuous ledge at the junction of the shoulder and the body and a convex base. The lower portion of the body is soot-affected. Of medium fabric, it is treated externally with a red slip. It was used as a cooking vessel. The type occurs in Sub-period VI-VIII.

Type 54. Vase with a clubbed internally thickened rim, grooved shoulder, prominently ledged at the junction of the body, and a round body. It was used as a cooking vessel. Of medium to coarse fabric, it is treated with a crimson slip. The type is a very common one and occurs from Sub-period VI to VII.

Type 55. Vase with a flared out rim, a grooved shoulder and rounded body distinguished by a rib in mid-portion. It was used as a cooking vessel as seen by the soot-affected base. The type occurs from Sub-period V to Sub-period VIII.

Type 56. Vase with a splayed out featureless rim, a carinated and thickened neck and a round body marked by a slight ledge in mid-portion. The vessel is burnt completely upto the ledge and is evidently a cooking vessel. Of medium

fabric, it is treated with a dull red slip. The type occurs in Sub-period VII. The type is comparable to *Śiśupālgarh*, p. 81, fig. 6, 15.

Type 57. Vase with a splayed out featureless rim, a grooved profile and a flattened body with lower girth. Of medium fabric, it is treated with a crimson slip. It starts in Sub-period VII and continues upto Sub-period VIII.

Type 58. Vase with an out-turned thickened rim, a carinated neck and a globular body. Of medium fabric, it is treated with a chocolate red slip. The type occurs in Sub-period VII and continues upto Sub-period VIII.

Type 59. Vase with an out-curved rim, carinated neck and prominently ledged at mid-portion of the body. It served as a cooking vessel as seen by the burnt surface. Of medium fabric, it is treated with a chocolate slip. The type occurs in Sub-period VIII.

Type 60. Vase with an out-turned internally hooked rim, a carinated neck and incurved sides. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period VIII.

Type 61. Vase with a splayed out grooved rim, carinated neck, multi-grooved shoulder and flanged at the mid-portion of the body. Of medium fabric, it is treated externally with a slip. The pot was used as a cooking vessel. The type occurs in ash pit SB(1), equated to Sub-period VIII.

Type 62. Vase, essentially same as above but for the less pronounced flange and a bright red slip. The pot was used as a cooking vessel. The type occurs in Sub-period VIII. Rough analogies exist at Tripuri (cf. *Tripuri*, p. 67, fig. 25, 125 and 128.)

Type 63. Vase with an out-turned clubbed rim, a straight neck, an ovoid body and a convex base. Of medium fabric, it is treated externally with a bright red slip. The type is a very common one and occurs in large numbers from Sub-period III to Sub-period VII. Almost in the same form the type still continues in certain areas of U.P. and is used to collect the juice of the palm tree (*tadi*).

Variant 63 a differs from the above in having an internally pointed rim. Of medium to coarse fabric, it is treated with a red slip. The type occurs from Sub-period III to Sub-period V. *Variant 63 b* differs from the main type in having a pointed thinned base. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period IV. *Variant 63 c* is distinguished by a thicker section and lower girth. Of medium fabric, it is treated externally with a red slip. The type occurs in Sub-period IV. *Variant 63 d* has an almost vertical nail-head rim and rounded body. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period IV. *Variant 63 e* is almost cylindrical in profile. Of coarse fabric, it is treated with a slip on the outside. The type occurs in Sub-period IV. *Variant 63 f* has an out-turned rim with an appreciable concavity at the neck and a thickened body. Of medium fabric, it is treated externally with a slip. The type occurs in Sub-period IV. *Variant 63 g* has a straight long neck, round body and a convex base. The type is a fairly common one and occurs in Sub-period IV. Of coarse fabric, it is treated with a red slip. *Variant 63 h* is

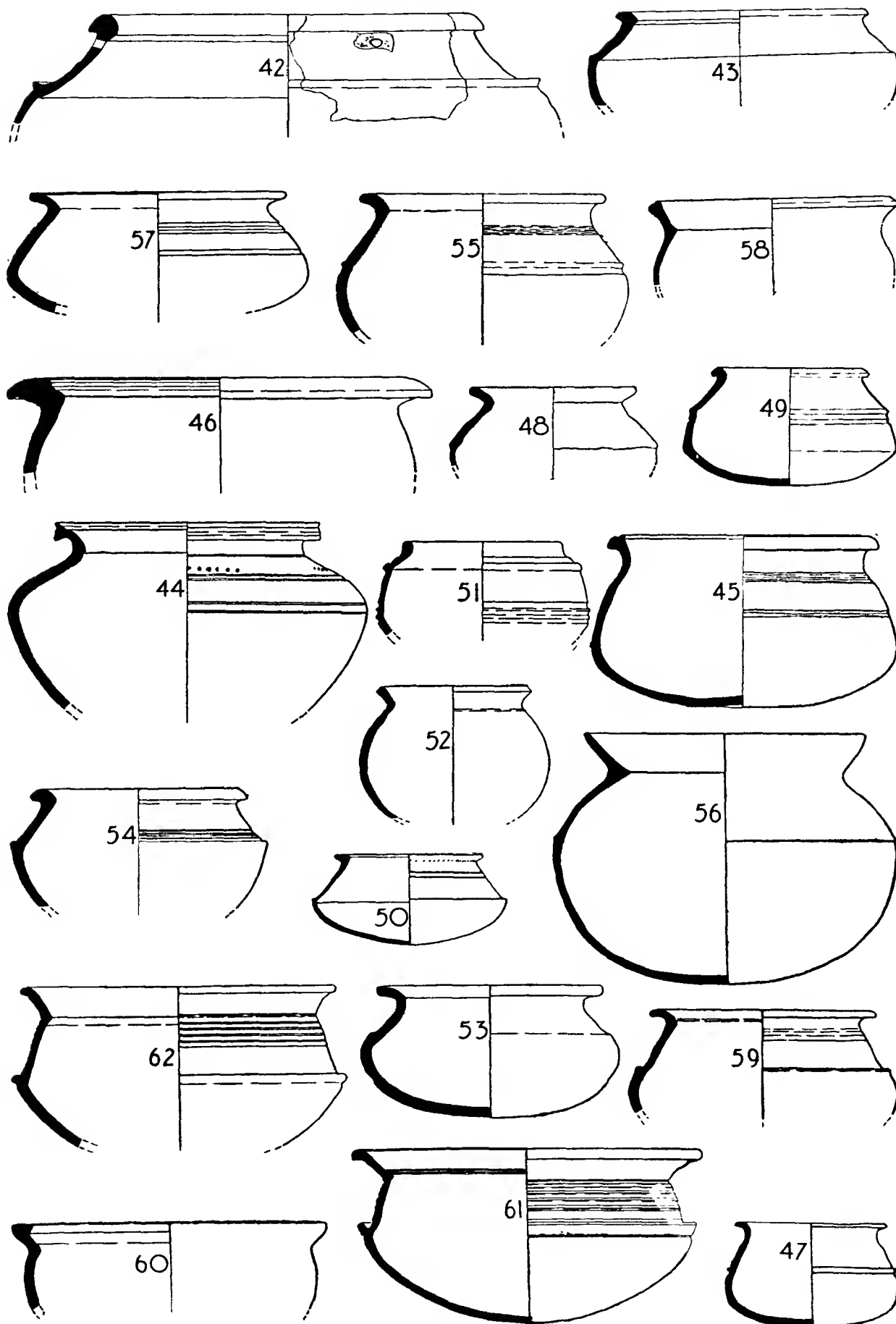


FIG. 26

almost a thicker version of 63 *a*. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period IV.

Type 64. Vase with an incurved internally sharpened rim, a concave neck, a grooved shoulder, and a round body. Of medium fabric, it is treated externally with a red slip. The type occurs from Sub-period III.

Type 65. Vase with an out-turned beaded rim and a rounded profile. The body is impressed with four wheel shaped stamps having ten or nine spokes. The type occurs in Sub-period III. *Variant 65 a* is stamped with a flower pattern, enclosing a circle at the centre from which emanate nine or ten arrows. Of medium fabric, it is treated with a slip. It occurs in Sub-period IV. *Variant 65 b* has a short vertical lip at the top of the rim and is stamped with a *triratna* symbol. It belongs probably to Sub-period IV. *Variant 65 c* lacks the droop in the rim of the previous example and is stamped with the usual form of *triratna*. Of medium fabric, it is treated with a bright red slip. The type possibly occurs in Sub-period IV. *Variant 65 d* is stamped with three circles, being one above two. Of medium fabric, it is treated externally with a slip. It belongs probably to Sub-period IV.

Type 66. Vase with an out-turned externally thickened and ribbed rim and a concave neck. Of medium fabric, it is treated with a red slip. The type occurs from Sub-period III to Sub-period VI.

Type 67. Vase with a splayed out featureless rim and a carinated neck. Of medium fabric, it is treated with a red slip. The type is a common one and occurs from Sub-period III to Sub-period VII.

Type 68. Vase with a narrowing featureless rim and having a ring of holes. Of medium fabric, it is treated with a red slip. The type occurs from Sub-period III to Sub-period VI. It is also found at Hastinapura in Period III (cf. *Hastinapura*, p. 62, fig. 19, *XLIV*).

Type 69. Fragment of a big jar with an out-turned clubbed rim, and concave externally ridged neck. The type is a fairly common one and occurs from Sub-period III Sub-period VIII.

Type 70. Fragment of a jar differing from the above in having a clubbed rim sharply ridged externally. Of coarse fabric, it is treated with a red slip. It occurs in Sub-period IV.

Type 71. Vase with an out-turned nailhead rim, a vertical concave neck, a globular body and a convex base. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period VII.

Type 72. Vase with an out-curved thickened rim and vertical concave neck. Of medium fabric, it is treated externally with a red slip. It occurs from Sub-period IV to Sub-period VIII.

Type 73. Big jar with an out-turned externally thickened rim, a weakly acarinated neck, an elliptical body and pointed base. Of medium fabric, it is treated with a red slip. This jar was used for soakage in lane No. 1. The type begins in Sub-period IV and continue upto Sub-period VI. Identical jars are met with at Taxila (cf. *Taxila*, III, pl. 121, 4).

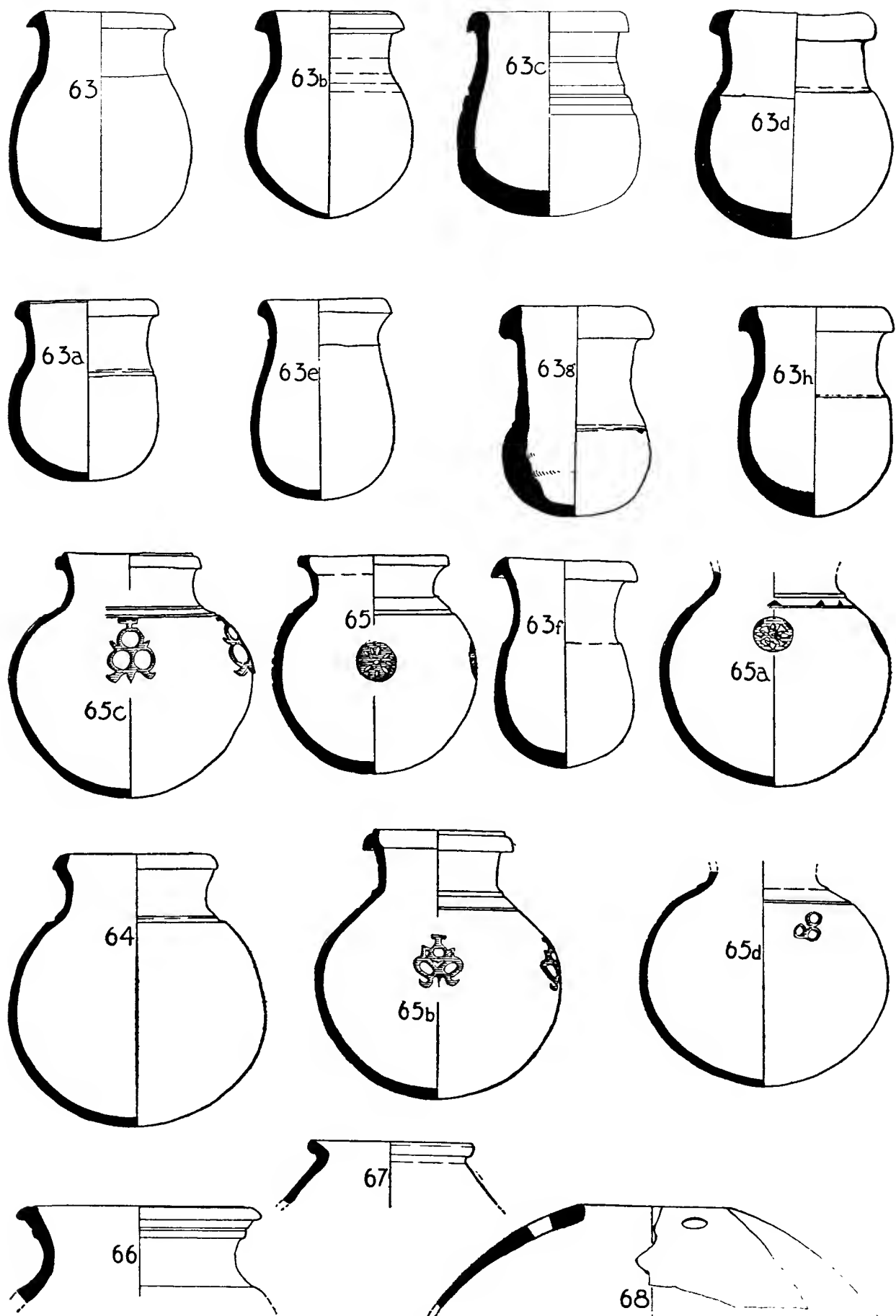


FIG. 27

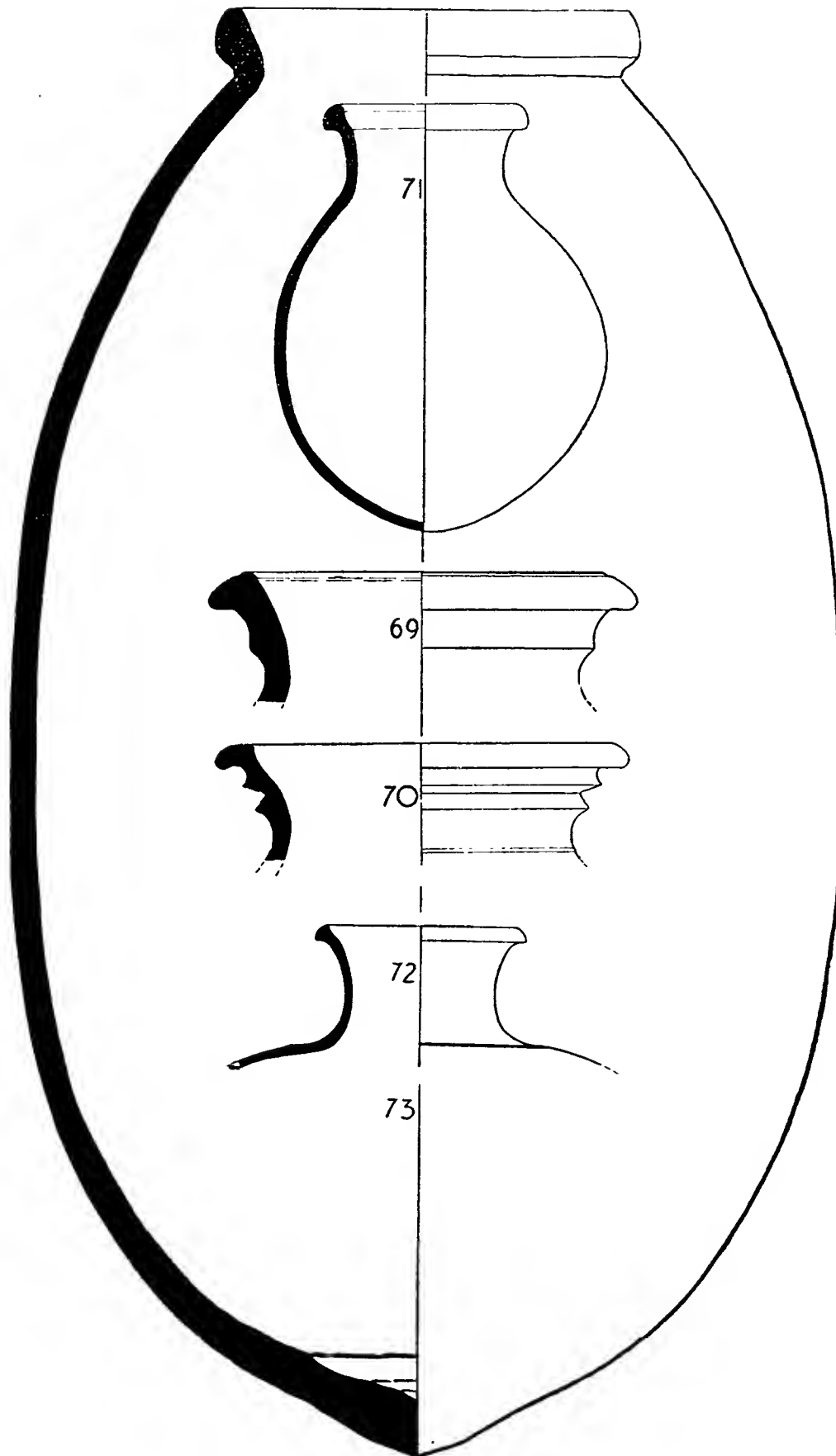


FIG. 28

Type 74. Vase with an out-turned externally collared rim, a vertical neck, round body, and a convex base. The type is a common one and occurs from Sub-period V to Sub-period VIII. It is also available at Hastināpura (cf. *Hastināpura*, p. 67, fig. 21. XXX).

Type 75. Vase with an out-turned, externally thickened and an undercut rim, a grooved concave neck and a grooved shoulder. Of medium fabric, it is treated with a red slip. The type begins in Sub-period V and continues upto Sub-period VIII.

Type 76. Vase with an out-turned externally thickened and undercut rim, a concave neck and a thickened grooved shoulder. Of medium fabric, it is treated with a red-chocolate slip. The type occurs from Sub-period V to Sub-period VIII.

Type 77. Vase with an out-turned rim, internally grooved rim which is marked by incisions. Of medium fabric, it is treated with a deep chocolate slip. The type occurs from Sub-period V to Sub-period VII.

Type 78. Fragment of a vase with an out-curved thickened and internally bevelled rim and a grooved neck. Of medium fabric, it is treated with a red slip. The type is a common one and occurs from Sub-period V to Sub-period VIII.

Type 79. Vase with an out-curved nail-head externally grooved rim and a concave neck. Of medium fabric, it is treated with a red slip. The type occurs from Sub-period V to Sub-period VIII.

Type 80. Vase with an out-turned thickened rim and grooved shoulder. Of fine to medium fabric, it is treated with a chocolate slip. The type occurs from Sub-period V to Sub-period VIII.

Type 81. Vase with a globular body and a flattened base. Of fine fabric, it is treated with a bright red slip. The type occurs from Sub-period VI to Sub-period VIII.

Type 82. Vase with an out-turned internally grooved rim, a carinated neck, elongated body and a flat base. Of medium fabric, it is treated with an ochre-red slip. The type occurs in Sub-period V.

Type 83. Vase with a vertical sharpened rim distinguished by a cordon on the outside and a vertical neck. Of medium fabric, it is treated with a red slip. The type is a common one and occurs from Sub-period V to Sub-period VII.

Type 84. Vase with an out-turned internally folded rim and a vertical neck. Of medium fabric it is treated with a dull red slip. The type occurs from Sub-period V to Sub-period VIII.

Type 85. Vase with a splayed out featureless rim, a carinated neck and an oblique shoulder. Of medium fabric, it is treated with a red slip. The type occurs from Sub-period V to Sub period VIII.

Type 86. Vase with a splayed out externally grooved rim, a carinated neck and a grooved shoulder which is decorated with wedge-shaped incisions. Of medium fabric, it is treated with a red slip. The type occurs from Sub-period VIII.

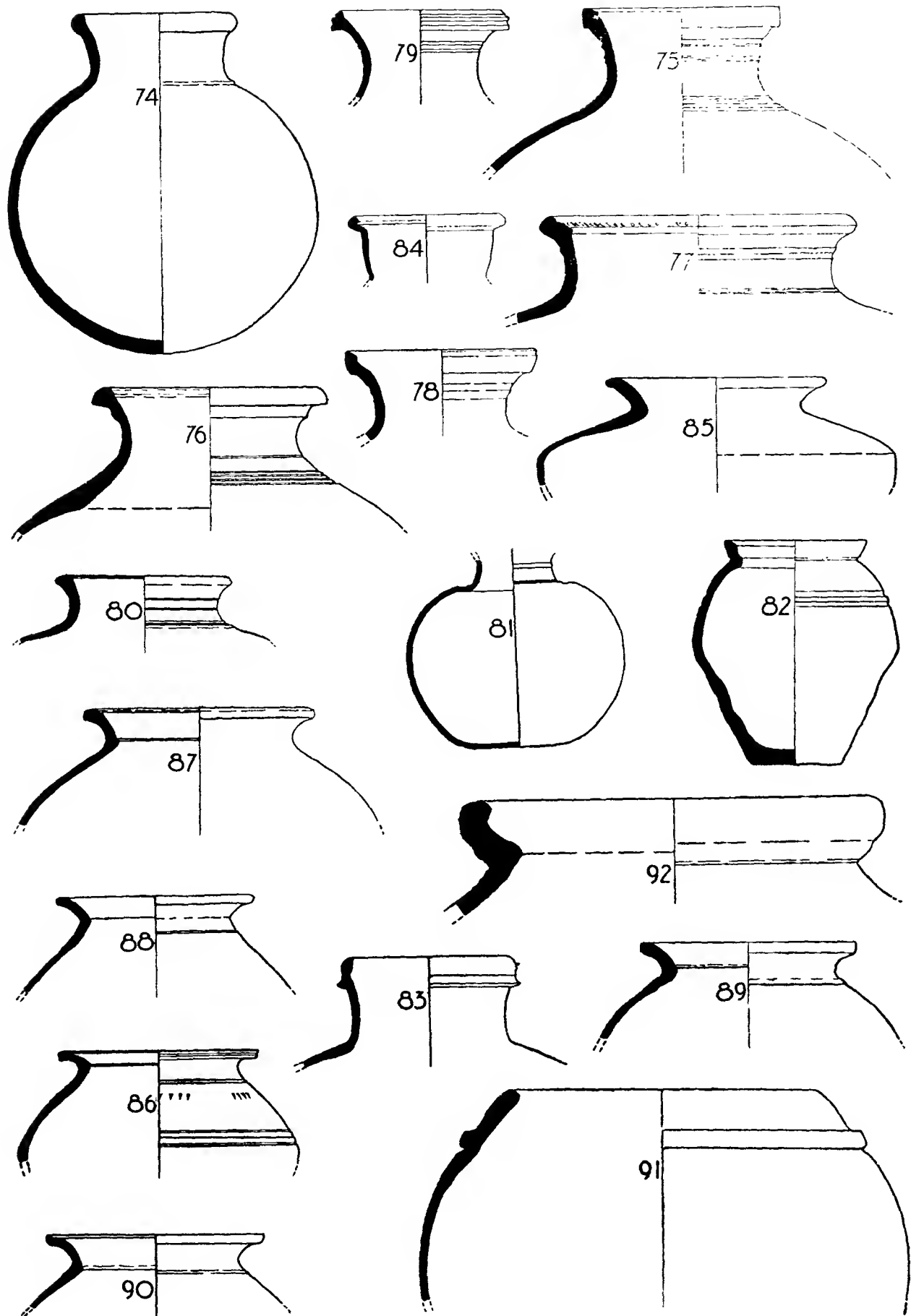


FIG. 29

Type 87. Vase with a splayed out internally thickened and grooved rim, a carinated neck and a globular body. Of medium fabric, is is treated with a chocolate slip. The type occurs from Sub-period V to Sub-period VIII.

Type 88. Vase with a splayed out featureless rim, and a carinated neck. The type occurs from Sub-period V to Sub-period VIII.

Type 89. Vase with a flaring featureless rim, a carinated neck and convex shoulder. Of medium fabric, it is treated with a red chocolate slip on the outside. The type occurs from Sub-period V to sub-period VIII.

Type 90. Vase with a flared out internally grooved rim and a carinated neck. Of medium fabric, it is treated with a chocolate slip. The type occurs from Sub-period V to Sub-period VIII.

Type 91. Vase with a narrowing featureless rim and cordoned at the shoulder. Of medium fabric, it is treated with a chocolate red slip. The type is a fairly common one and occurs from Sub-period V to Sub-period VIII.

Type 92. Thick jar with an incurved featureless rim and a carinated neck. Of coarse fabric with coarse gritty core, it is devoid of any slip or wash. The type occurs from Sub-period V to Sub-period VI.

Type 93. Fragment of a vase with an out-curved thickened rim, concave externally cordoned neck and a grooved shoulder. Of medium to coarse fabric, it is treated with a red slip. The type is a quite common one and occurs from Sub-period V to Sub-period VII.

Type 94. Fragment of a vase with an out-turned thickened rim, short concave neck, a round body and a convex base. Of medium fabric, it is treated with a red external slip. The type occurs in Sub-period VI.

Type 95. Vase with a clubbed rim, a short concave neck and convex shoulder. Of medium fabric, it is treated with a slip on the outside. The type occurs from Sub-period VI to Sub-period VIII.

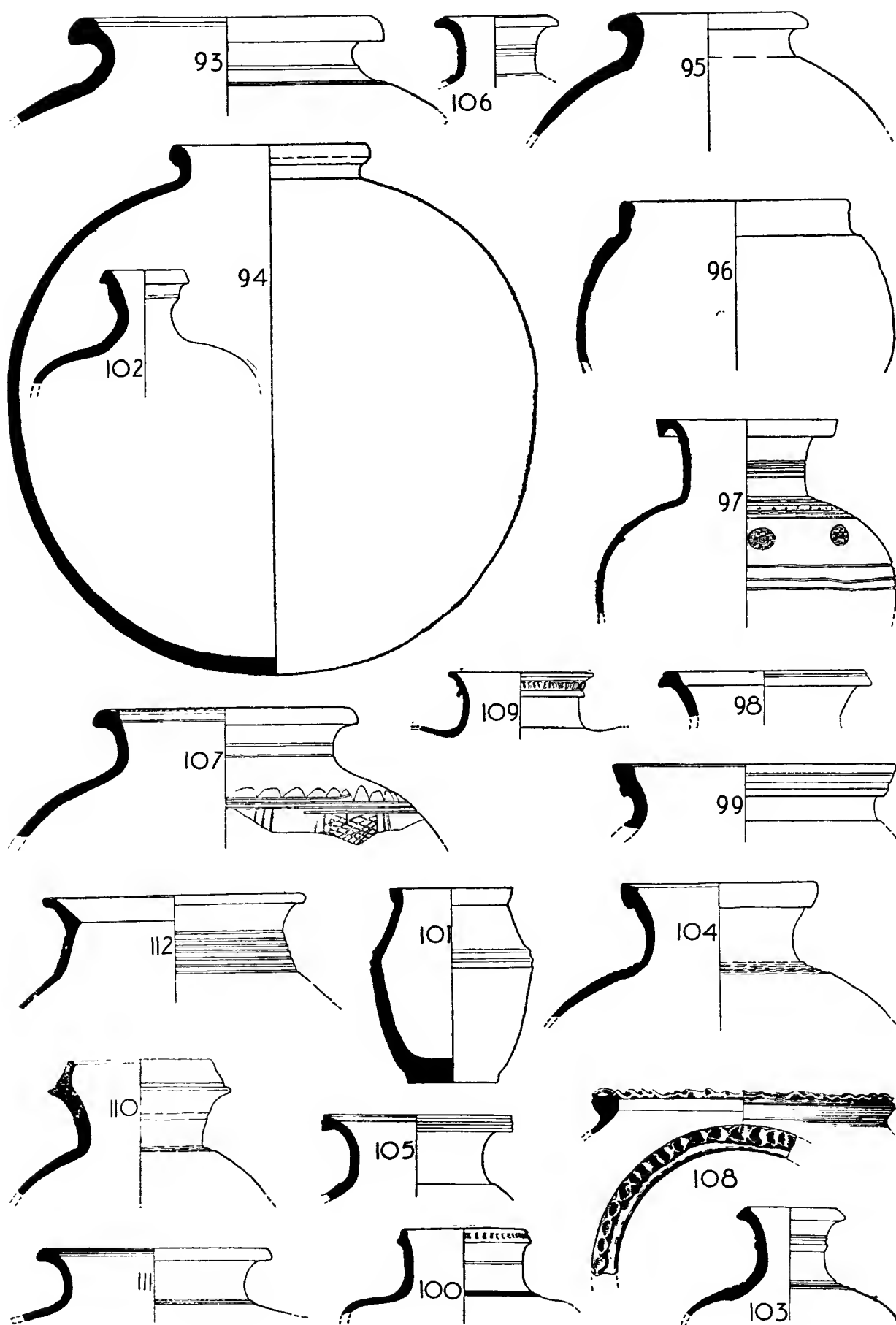
Type 96. Vase with a vertical internally thickened rim, a ledged neck, and a globular body. Of medium fabric it is treated externally with a red slip. The type is a very common one and occurs from Sub-period V to Sub-period VIII.

Type 97. Vase with an out-curved thickened and externally pared rim, a long vertical concave neck grooved in the middle and a rounded profile. The body is stamped with flower designs at frequent intervals. The designs are enclosed between two sets of grooves. Of medium fabric, it is treated externally with a red slip. The type occurs in Sub-period VI.

Type 98. Vase with an out-turned thickened and externally grooved rim which is further distinguished by a short ledge on the inside. Of medium fabric, it is treated with a chocolate red slip. The type occurs in Sub-period VI.

Type 99. Fragment of a vase with an out-turned externally grooved and internally thickened rim and a short convex neck. Of coarse fabric, insufficiently fired, it is treated both externally and internally with a terracotta red slip. The type belongs to Sub-period VI.

Type 100. Fragment of a vase with a vertical obliquely cut rim which is



decorated with series of sigma incisions, a concave neck and squarish shoulders. It is further marked by a number of parallel grooves at the junction of the neck and shoulders. Of medium fabric, it is treated externally with a dark chocolate slip. The type occurs from Sub-period VI to Sub-period VIII.

Type 101. Vase with an out-turned thickened. flat-topped rim, oblique shoulders, a carinated profile and sides tapering to a flat base. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period VI.

Type 102. Vase with an out-turned externally, thickened undercut rim, a concave neck and squarish shoulders. Of coarse fabric, it is treated with an ashy coloured slip. The type occurs from Sub-period VI to Sub-period VIII.

Type 103. Vase with an out-turned thickened rim, a grooved concave neck, and grooved shoulders. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period VI.

Type 104. Vase with an out-turned externally collared, internally bevelled rim, a concave neck, and grooved shoulders. Of medium fabric, it is treated with a slip. The type occurs in Sub-period VII to Sub-period VIII.

Type 105. Vase with an out-curved externally thickened rim and a concave ledged neck. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period VII.

Type 106. Vase with an out-curved internally thickened rim and a vertical grooved concave neck. Of medium fabric, it is treated externally with a red slip. The type occurs in Sub-period VII.

Type 107. Vase with an out-turned thickened rim with a groove at the top. The groove is decorated with a chain pattern. The body is decorated with incised cross hatchings enclosed within a set of three vertical lines on each side. Above the uppermost line is incised a wavy pattern. Of medium to fine fabric, it is treated externally with a thick deep red slip. On the inside of the neck some lines in black paintings appear. The type occurs in Sub-period VIII.

Type 108. Vase with a thickened rim surmounted by an oblique band decorated with a finger tip design. Of medium fabric it is treated with a red slip. The type comes from Sub-period VIII.

Type 109. Vase with an out-turned externally ridged rim, and a long vertical concave neck. The rim portion is decorated with oblique incisions. Of medium fabric, it is treated with a deep chocolate slip. The type occurs in Sub-period VIII.

Type 110. Vase with a vertical featureless rim ledged externally, a concave neck and convex shoulders. Of medium fabric it is treated with a deep chocolate slip. The type occurs in Sub-period VIII.

Type 111. Vase with an out-curved thickened rim and a short concave neck, grooved externally. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period VIII.

Type 112. Vase with an out-turned rim, thickened at the carinated neck which is multi-grooved externally. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period VII to Sub-period VIII.

Type 113. Vase (*surahi*) with a vertical featureless rim, long weakly carinated neck marked by a cordon, squared shoulders, rounded profile and a convex base. Of medium fabric, it is treated externally with a bright red slip. The type occurs in Sub-period III and is also closely comparable to *Ahichchhatra*, p. 47, fig. 3, 42. *Variant 113 a* differs from the main type in having a thinned rim. The type occurs in Sub-period III.

Type 114. Vase with an out-turned, internally grooved rim, a concave neck, grooved convex shoulders and a flat base. The spout is broken. The type occurs in Sub-period III.

Type 115. Spouted vase with an out-turned, internally grooved rim, a concave neck, grooved shoulders and a footed base. Of medium fabric, it is treated externally with a red slip. The type is a very common one and occurs from Sub-period V to Sub-period VII.

Type 116. Spouted vase with an out-turned nail-head rim, a concave neck, globular body and a flat omphalos base. Of medium fabric with plenty of sand in the paste, it is treated with a bright red slip. The type occurs from Sub-period V to Sub-period VII.

Type 117. Vase with an out-turned thickened rim, a long vertical concave neck and convex shoulders. Of medium fabric it is treated with red slip. The type occurs in Sub-period V.

Type 118. Vase with a vertical externally chamfered rim, a long bottle-neck and squarish shoulders. There is an unfinished perforation running through the rim and the neck. Of fine to medium fabric, it is treated with a bright red slip. The type is a very common one and occurs from Sub-period V to Sub-period VII but with greater concentration in Sub-period VI. The form is widely distributed and is known on sites on early historical period in northern and southern-western India (cf. Subbarao, *Baroda Through the Ages*, pp. 56-58).

Type 119. Vase almost same as above but for the rim which is out-turned in the present case. A perforation runs down the rim and the neck. The type occurs in Sub-period V and continues upto Sub-period VIII.

Type 120. Vase with a horizontally splayed out rim, a long vertical neck and ledged squarish shoulders. Of fine fabric, it is treated with a bright chocolate slip. The type occurs in Sub-period VI.

Type 121. Lower part of a spouted vase with weakly grooved body and a flat base. It belongs to Sub-period VI.

Type 122. Spouted vase with an out-turned externally grooved rim a concave neck, squarish shoulders, rounded body and a footed ring-base. The body is marked by two parallel ledges above the upper part of which is a decorated panel with a pattern consisting of criss-cross lines forming squares and rectangles enclosing circles. Of fine fabric with plenty of sand in the paste, it is treated externally with a red slip. The type begins in Sub-period VII and continues upto Sub-period VIII.

Type 123. Spouted vase with an out-turned externally thickened and grooved rim, a short concave neck, convex shoulders, round body, and a footed ring base.

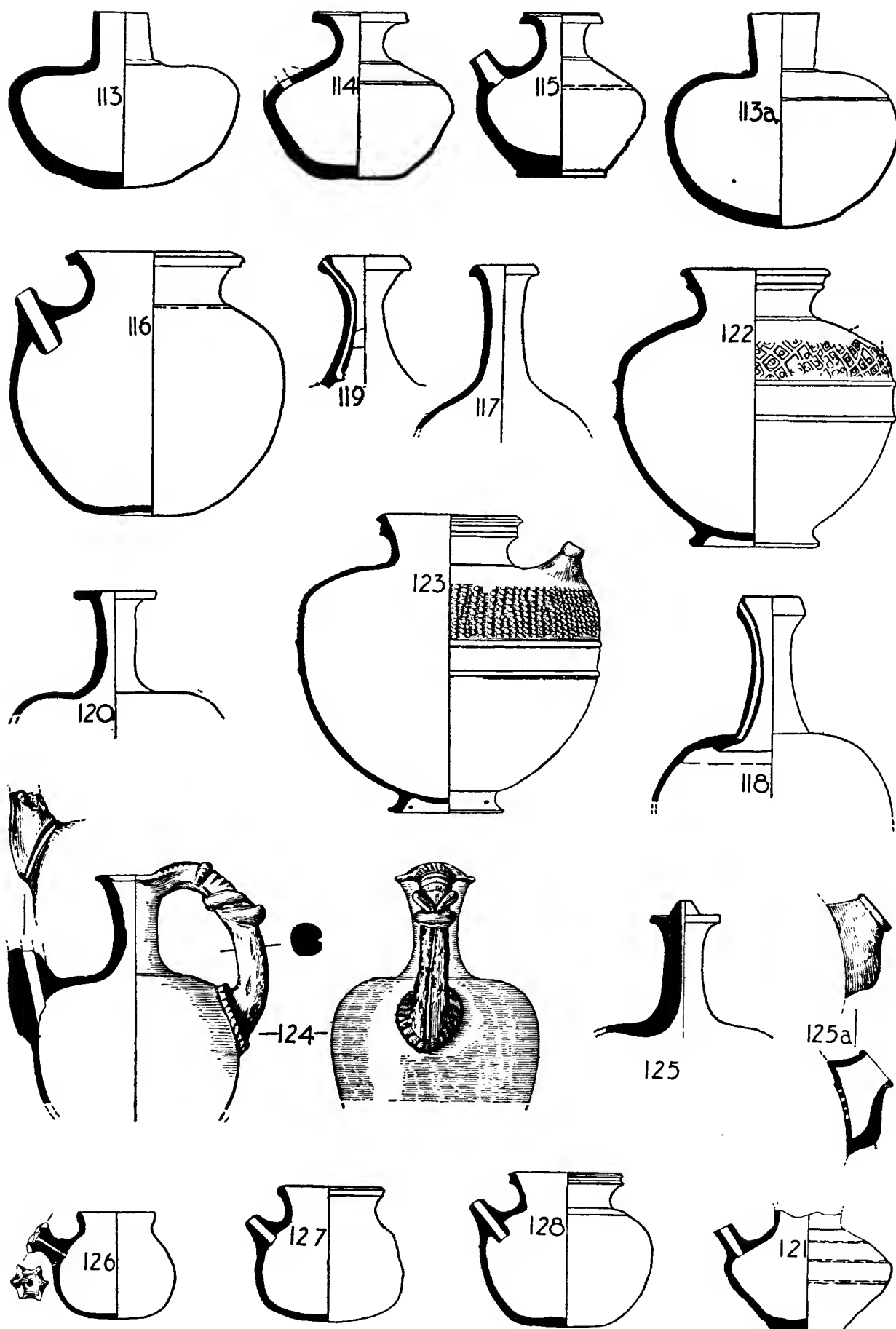


FIG. 31

The body is decorated with a pattern consisting of small circles arranged vertically in a mass. Of fine fabric, it is treated with a bright red slip. The decorated part is treated with a purple slip with plenty of mica. The polychrome slip must have heightened the beauty of the pot. The type occurs in Sub-periods VII and VIII.

Type 124. It is one of the most sophisticated pots excavated from Kauśāmbī. It has an everted flat-topped rim, a concave graceful neck, squared shoulders and a globular body. The spout too is marked with grooves. The handle simulating knots of inter-twined rope is richly decorated. Grooved below the knot, it has a ring of notches at the luting point both with the body and the rim. The space between the cordon and the knot is decorated with grooves. This spouted vase strikes a discordant note amongst the primarily utilitarian ware of Kauśāmbī and points to its foreign origin. Of medium fabric, it is treated with a chocolate slip. The type belongs to Sub-period V (Also cf. *Taxila*, III, pl. 123, 72).

Type 125. Vase with an out-turned rim marked by a knob-like opening and squarish shoulders. It has a spout with a strainer at the junction (cf. *Rūpar*, p. 128, fig. 6, 10, *Hastināpura*, p. 64, fig. 20, XV, and *Taxila*, III, pl. 123, 66). The subsequent excavations at the Ghoshitārāma monastery (fig. 32) exposed a complete vase.

Type 126. Spouted vase with an out-turned featureless rim, a concave neck and roundish body, flattened at the bottom. Its prominent feature is the spout with a flower-shaped mouth. Of medium fabric, it is treated with a red slip. The type occurs, in Sub-period VII and continues to Sub-period VIII.

Type 127. Spouted vase with an out-turned featureless rim, a concave neck, and a globular body flattened at the base. Of medium fabric, with plenty of sand in the paste, it is treated with a bright red slip. The type occurs in Sub-period VII and continues upto Sub-period VIII.

Type 128. Spouted *Surahi* with an out-turned externally grooved rim, a carinated neck, round body and a flat base. Of medium fabric, it is treated with a bright red slip. The type occurs in Sub-period VII and continues upto Sub-period VIII.

Type 129. Lid with a vertical featureless inset rim, a prominent flange at the waist and a convex base. It is a unique kind of lid and served probably the dual purpose of a lid and a pot. The upper flange immediately below the inset rim was presumably meant to receive another pot. The lower and the more pronounced flange at the waist served as stopper if used as a lid. Of fine to medium fabric, it is treated both externally and internally with a slip. It is difficult to understand the purpose of the four perforations in the body between the two flanges. The type occurs in Sub-period III and continues upto Sub-period V.

Type 130. Ink-pot shaped lid with a narrowing featureless lip, an obliquely running flange which is thickened at the terminal and a flat base. Of medium fabric, it is treated with a slip both externally and internally. The type occurs from Sub-period III to Sub-period VI.

Type 131. Lid with an everted featureless rim, bowl-shaped upper body, a horizontal flange and sides tapering to a flat base. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs in Sub-period IV.

Type 132. Lid with a closing featureless rim, thickened flange and a sagger base. Of medium fabric, it is treated all over with a red slip. The type occurs from Sub-period V to Sub-period VIII. *Variant 132 a* differs from the main type in having a vertical rim and corrugated lower body. The type occurs from Sub-period V to Sub-period VIII. *Variant 132 b* has its rim grooved at the top. It occurs from Sub-period V to Sub-period VIII.

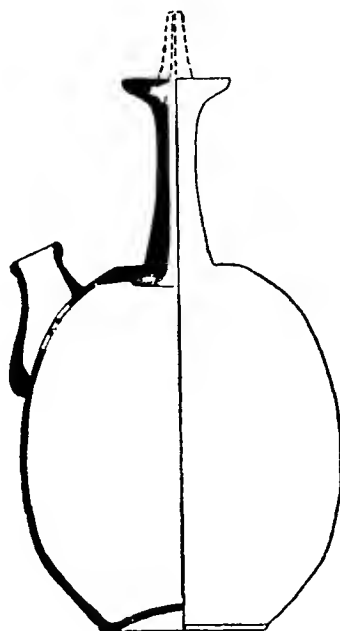


FIG. 32

Type 133. Lid with an inturned thickened rim, obliquely running flange, tapering sides and a flat base. Of medium fabric, it is treated all over with a red slip.

Type 134. Lid with an inturned externally grooved rim, a prominent flange and a flat base. The combined profile of flange and lower part of the body has the appearance of a dish. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs from Sub-period V to Sub-period VIII.

Type 135. Lid with a splayed out featureless rim and a knob-handle in the middle of the vase. Of medium fabric, it is treated all over with a red slip. The type occurs from Sub-period V to Sub-period VII (cf. *Hastināpura*, p. 64, fig. 20, XIV, *Rupar*, p. 128, fig. 6, 21 and *Taxila*, III, pl. 126, 190-191).

Type 136. Same as above but for the base which is flat. The type occurs in Sub-period V.

Type 137. Lid with a featureless rim, sharply closing sides and a solid knob in the centre. But for the knob it is almost identical with the ordinary bowls of the period. The type occurs from Sub-period VI to Sub-period VIII.

Type 138. Lid with a thin horizontally splayed out rim, tapering sides and a flat base. The centre of the lid is marked by a hollow receptacle resembling an ink-pot which rises above the level of the rim. Of medium fabric, it is treated all over with a red slip. The type occurs in Sub-period VII.

Type 139. Vase with a splayed out featureless rim, a concave neck, globular body with a low girth and a flattened base. Of medium fabric, it is treated with a reserve slip on the outside. The type occurs from Sub-period III to Sub-period V.

Type 140. Vase with a splayed out featureless rim, a short concave neck, globular body and a flattened base. Of medium fabric, it is treated all over with a red slip. The type occurs in Sub-period V.

Type 141. Vase with an out-turned featureless rim, a concave neck, an inconspicuous shoulder, globular body and a convex base. Of medium fabric, it is treated with a bright red slip. The type occurs from Sub-period V to Sub-period VIII.

Type 142. Vase with a vertical featureless rim, an inconspicuous neck, globular body and a convex base. Of medium fabric, it is treated externally with a red slip. The type occurs from Sub-period V to Sub-period VII.

Type 143. Vase with a splayed out featureless rim, a carinated neck and convex shoulders decorated with wedge shaped oblique incisions. The type belongs to Sub-period VI.

Type 144. Vase with an out-turned featureless rim, carinated neck, a lower girth and a convex base. Of coarse fabric, it is treated with a dull red slip. The type occurs in Sub-period VI and continues upto Sub-period VII.

Type 145. Vase with an out-turned rim, a weakly carinated neck, rounded body and a presumably convex base. The shoulder is decorated with finger tip design on an applied band. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period VII. *Variant 145 a* differs in having a prominent rim and the design on the mid portion of the body. Of medium fabric, it is treated with a red slip, which has now completely vanished because of its being buried in the Brick Tank 2. The type occurs in Sub-period V and continues upto Sub-period VIII.

Type 146. Small vase with an out-turned rim, a carinated flattened round body with a ledge at mid-portion, and a convex base. Of medium fabric, it is treated with a wash. The type occurs in Sub-period VII.

Type 147. Vase with an everted rim, thickened section and a convex base. Of coarse fabric, it is treated with a red slip. The type occurs in Sub-period IV and continues upto Sub-period VI.

Type 148. Vase with a horizontally splayed out rim, a short carinated neck, carinated body and a convex base. Of medium fabric, it is treated with a dull red slip. The type occurs in Sub-period V.

Type 149. Vase with an everted rim, a thick section, and a pointed convex base. Possibly it was hand-modelled. From Sub-period V.

Type 150. Vase with a vertical featureless rim, a weakly carinated profile and a convex base. Of medium fabric, it is treated with a crimson slip. The type is a very common one and occurs in Sub-period V.

Type 151. Vase with an out-turned featureless rim, a concave neck, round

body and a convex base. Of medium fabric, it is treated with a red slip. The type possibly occurs in Sub-period VII.

Type 152. Vase with an out-turned thickened rim, a short vertical concave neck, grooved shoulders, a round body and a convex base. An inverted funnel is luted to the inner side of the neck. The shoulder is punched with a decorative device simulating human hand. It is a unique specimen of its kind, prepared for some special purpose. Alternatively it may have been used as a condenser or an ink-pot. Of medium fabric, it is treated with a red slip. It belongs to Sub-period V.

Type 153. Medium-sized vase with a slightly out-turned featureless rim, a long vertical externally ledged neck and an irregularly globular body and a flat base. Of coarse gritty ashy-coloured fabric, it is treated externally with a red slip. The type occurs in Sub-period VI.

Type 154. Small vase with an out-turned featureless rim, a short carinated neck, a bulged body and a flat base. Of medium to coarse fabric, it is devoid of any slip. The type occurs in Sub-period V.

Type 155. Vase with an out-turned featureless rim, a concave neck, a bulged body and a flat base. Of medium fabric, it is treated externally with a red slip. The type is available from Sub-period V to Sub-period VII. The pot is important in the sense that it contained hoard No. 3 (above p. 82).

Type 156. Small vase with an out-turned featureless rim, a concave neck, and a round profile ledged at mid-portion. Of coarse gritty fabric, it is treated with a dull black slip. The type occurs from Sub-period VI to Sub-period VIII.

Type 157. Vase with an out-turned slightly flattened rim, a concave neck, convex shoulders, an elliptical body and a flat base. Of medium fabric, it is treated with a red slip both externally and internally. The type is also available at *Rupar* (cf. *Rupar*, p. 128, fig. 6, 9). The type occurs in Sub-period III.

Type 158. Almost same as above but with a thickened base. Of medium fabric, it is treated with a bright slip. The type occurs from Sub-period V to Sub-period VIII. Analogies exist at Hastinapura (cf. *Hastināpura*, p. 64, fig. 20, XXVI).

Type 159. Small vase with an out-turned externally pared rim, a carinated neck, round body and a small footed base. Of coarse gritty fabric, it is indifferently fired. The type occurs in Sub-period VI.

Type 160. Medium-sized vase with an out-curved externally thickened rim, a grooved shoulder, an almost round body and a flat base. It has a coarse gritty fabric. The type occurs in Sub-period VII.

Type 161. Medium-sized vase with an out-turned featureless rim, a carinated short neck, ovoid body and a flat base. Of medium fabric, it is treated with a terracotta red slip. The type occurs in Sub-period VII.

Type 162. Medium-sized vase with an out-turned thickened rim, a carinated neck, elliptical body and a small flat base. Of medium to coarse fabric, it is treated externally with a crimson slip. The type occurs in Sub-period VII.

Type 163. Medium-sized vase with an out-turned featureless rim, a carinated

neck, round body and a small button base. Of medium fabric, it is treated externally with a red slip. The type occurs in Sub-period VII.

Type 164. Medium-sized vase with a vertical featureless rim, a vertical carinated neck, convex shoulders, a concave waist and a small footed base. Of medium fabric, it is treated with a bright red colour. The type occurs in Sub-period VII.

Type 165. Medium-sized vase with an out-turned thickened and externally grooved rim, a carinated neck and a round body resting on a decorated cordon, supported by a pedestal base. The neck is pierced with four holes. The shoulder is decorated with a panel of punched designs consisting of alternating leafy pattern and a circle enclosing dots, the upper end of the panel being marked by incised decoration. The cordon below is cut by deep oblique grooves. Of fine fabric, it is treated with a crimson slip. It is a unique vase and belongs to Sub-period VII.

Type 166. Lower part of a bowl possibly with recurved shoulder, tapering sides and a ring base. The shoulder is decorated with eight stamped designs simulating betel-leaf. Of medium fabric, it is treated externally with a chocolate red slip. From Sub-period VI.

Type 167. Vase with a vertical, flat-topped rim, a short carinated neck, prominently grooved shoulders, bulged body, a concave waist and a flat base. Of medium fabric, it is treated with a dull red light slip. The type occurs from Sub-period IV.

Type 168. Almost same as above except for the girth which in the present example is in mid-height of the pot. Of medium fabric, it is treated with a red slip.

Type 169. Vase with an out-turned internally thickened and undercut rim and convex shoulders. Of medium fabric, it is treated with a bright red slip. The type occurs in Sub-period VI.

Type 170. Medium-sized vase with an out-turned slightly thickened rim, a carinated neck, a round body externally grooved and a perforated flat base. Of medium fabric, it is treated with a red slip only at the neck and the rim. Such vases with perforated bases were in all likelihood use for preparing certain kind of sweets like *jalebi*. This method still persists in certain parts of northern India including Kauśāmbī and its neighbourhood. The type occurs in Sub-period VII and continues upto Sub-period VIII.

Type 171. Vase with an out-turned sharpened rim, a carinated neck, grooved at the junction of the shoulder and the body and a flat base which is marked on the inside with a solid knob in the centre. Of medium fabric, it is treated externally with a red slip. It occurs in Sub-period VIII.

Type 172. Vase with an out-turned externally thickened and undercut rim, grooved carinated neck, round body and a flat base. It is further distinguished by a series of grooves on the shoulders. Of medium fabric, it is treated with a red slip. The type is not very common and occurs from Sub-period VI to Sub-period VIII.

Type 173. Vase with a slightly out-turned externally thickened rim, a weakly carinated convex shoulder, an avoid body, and a flat base. Of medium fabric, it

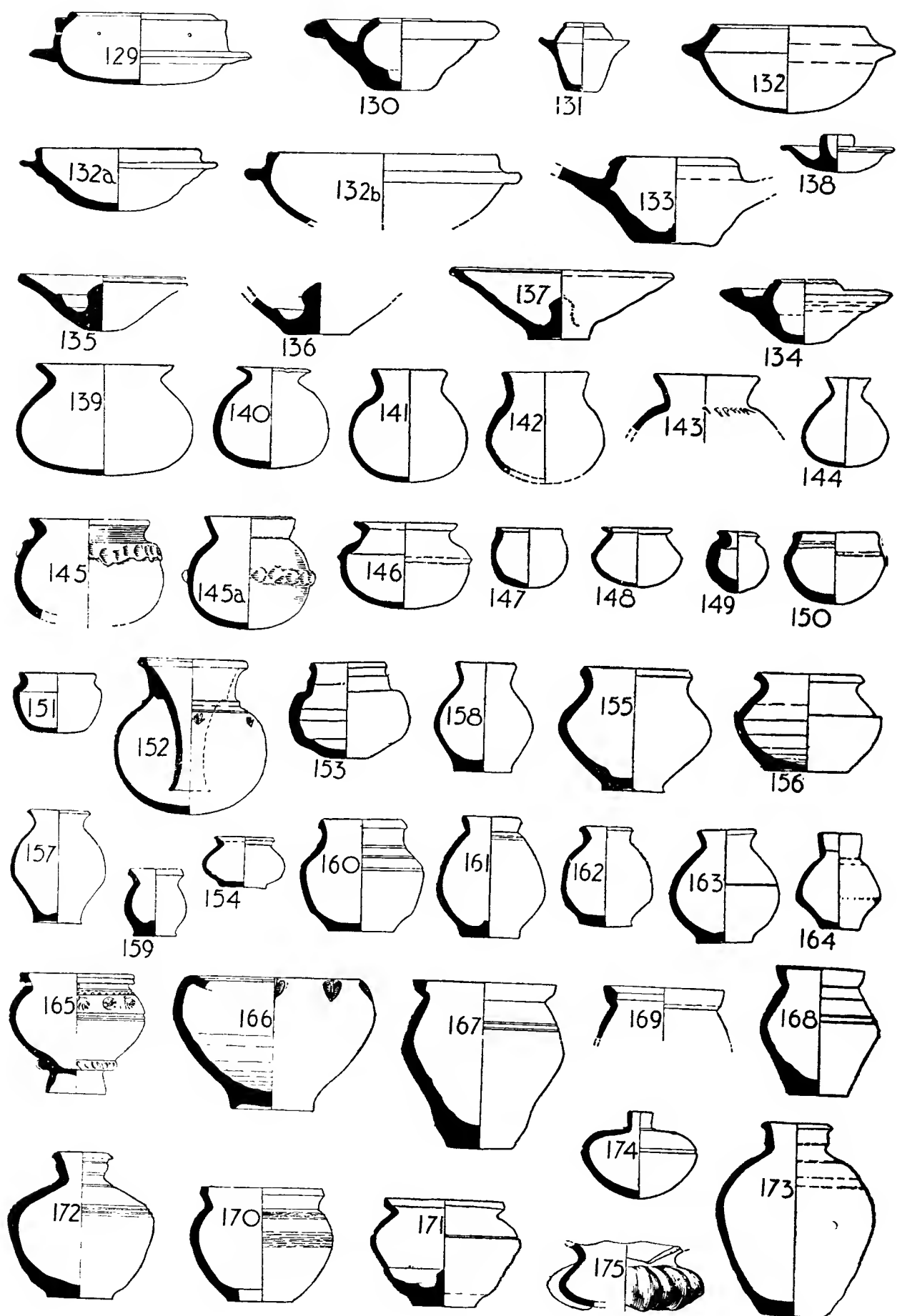


FIG. 33

is treated with a red slip. The pot was recovered from Brick Tank 1. The type occurs in Sub-period VII.

Type 174. Vase with a vertical featureless rim, a carinated neck with a cordon at its base, squared shoulders, squattish body, grooved in the middle and a convex body. Of medium fabric, it is treated with a bright red slip. The type occurs from Sub-period V and continues upto Sub-period VIII.

Type 175. Part of a vase possibly with a flaring featureless rim, concave neck and a flattened *āmalaka*-shaped body. Of medium fabric, it is treated both externally and internally with a chocolate slip. The type, prepared out of a mould, is a unique one and occurs in Sub-period VII and Sub-period VIII.

Type 176. Vase with an out-curved featureless rim, a ridged double concave profile and a convex base. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs in Sub-period V.

Type 177. Miniature vase with an out-turned rim, a lower carinated girth and a flat base. *Variant 177 a* has a more thickened base.

Type 178. Vase with a splayed out internally grooved rim, a carinated neck, a grooved body and a sagger base. The type occurs from Sub-period VI and continues upto Sub-period VIII.

Type 179. Vase with an out-turned rim, a curved shoulder, a ridged waist and a flat base. The type occurs in Sub-period VI and continues upto Sub-period VIII. Roughly similar shapes are also available at Hastinapura (cf. *Hastinapura*, p. 64, fig. 20, XXIV and XXIV a). *Variant 179 a* differs from the main type in having a shorter rim and a thickened base. The type belongs to Sub-period VI. Analogies exist at Rupar (cf. *Rupar*, p. 128, fig. 6, 8). *Variant 179 b* differs from the above in having a longer rim and a convex waist. The type occurs in Sub-period VII and continues upto Sub-period VIII.

Type 180. Vase with a splayed out rim, a prominently concave neck, almost cylindrical sides, ridged waist and a sagger base. The type comes from Sub-period VII.

Type 181. Vase with an out-turned featureless rim, short concave neck, globular body and a convex base. Of medium fabric, it is treated both externally and internally with an ochrous red slip. The type belongs to Sub-period III. Also available at Tripuri (cf. *Tripuri*, p. 74, fig. 29, 160).

Type 182. Small vase with an out-turned rim, a carinated neck, a grooved shoulder, bulging body and a constricted flattish base. Of medium fabric, it is treated externally with a red slip. The type is a very common one and occurs in Sub-period IV.

Type 183. Miniature vase with an out-turned featureless rim, a short carinated neck, and sides tapering to a flat base. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs from Sub-period IV.

Type 184. Miniature vase with an everted rim, chalice-shaped body and a flat base. It belongs to Sub-period V.

Type 185. Miniature vase with an out-curved rim, rounded profile, concave constricted waist and a flat base. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period V. *Variant 185 a* has a thickened rim and also occurs in Sub-period V. *Variant 185 b* lacks the neck and belongs to the same level as above. *Variant 185 c* is almost same as above but has a prominent base.

Type 186. Miniature vase with an in-turned featureless rim, a carinated profile with a concave waist and a flat base. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period VII.

Type 187. Small vase with an out-turned featureless rim, a carinated neck and a lower girth constricted to a footed base. Of medium fabric, it is treated with a red slip. The type occurs in Sub-period VII.

Type 188. Vase with an out-turned featureless rim, a roughly carinated profile with a groove in mid-portion and a flat base. The type occurs in Sub-period VII.

Type 189. Small vase with an everted featureless rim, oblique shoulders, ridged in mid-portion of the body, and a convex base. There are three sets of grooves, one above the carination and two below it. Of medium fabric, it is treated with a dull black slip. The type occurs in Sub-period V.

Type 190. Goblet with a slightly out-turned featureless rim, ridged body with a markedly concave profile below the carination and a flat base. Of medium fabric, it is treated all over with a red slip. The type occurs from Sub-period V to Sub-period VIII. Also available at Hastinapura (cf. *Hastinapura*, p. 64, fig. 20, X).

Type 191. Almost same as above but for the out-curved rim and the absence of ridge. (Also cf. *Hastinapura*, p. 64, fig. 20, X).

Type 192. Goblet (measure-glass-shaped) with a solid footed base. Of medium fabric, it is treated both externally and internally with a black slip. The type occurs from Sub-period V to Sub-period VII. Also available at Rupar (cf. *Rupar*, p. 128, fig. 6, 23).

Type 193. Small vase with an out-turned rim pared at the top, a round body and a pedestal base. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs in Sub-period V and continues upto Sub-period VIII. Also available at Taxila (cf. *Taxila*, III, pl. 124, 88).

Type 194. Small vase with a markedly flared rim, a ridged waist and a flat base. Of medium fabric, it is treated both externally and internally with a red slip. The type belongs to Sub-period VI. Also available at Taxila (cf. *Taxila*, III, pl. 124, 87).

Type 195. Small vase with an out-turned featureless rim, tapering thickened sides and a flat base. Of medium fabric, it is treated both externally and internally with a red slip. The type occurs in Sub-period VI.

Type 196. Small vase with a splayed out featureless rim, and vertical sides, constricted to a sagger base. Of medium fabric, it is treated both externally and internally with a red slip. The type is available in Sub-periods VI and VII.

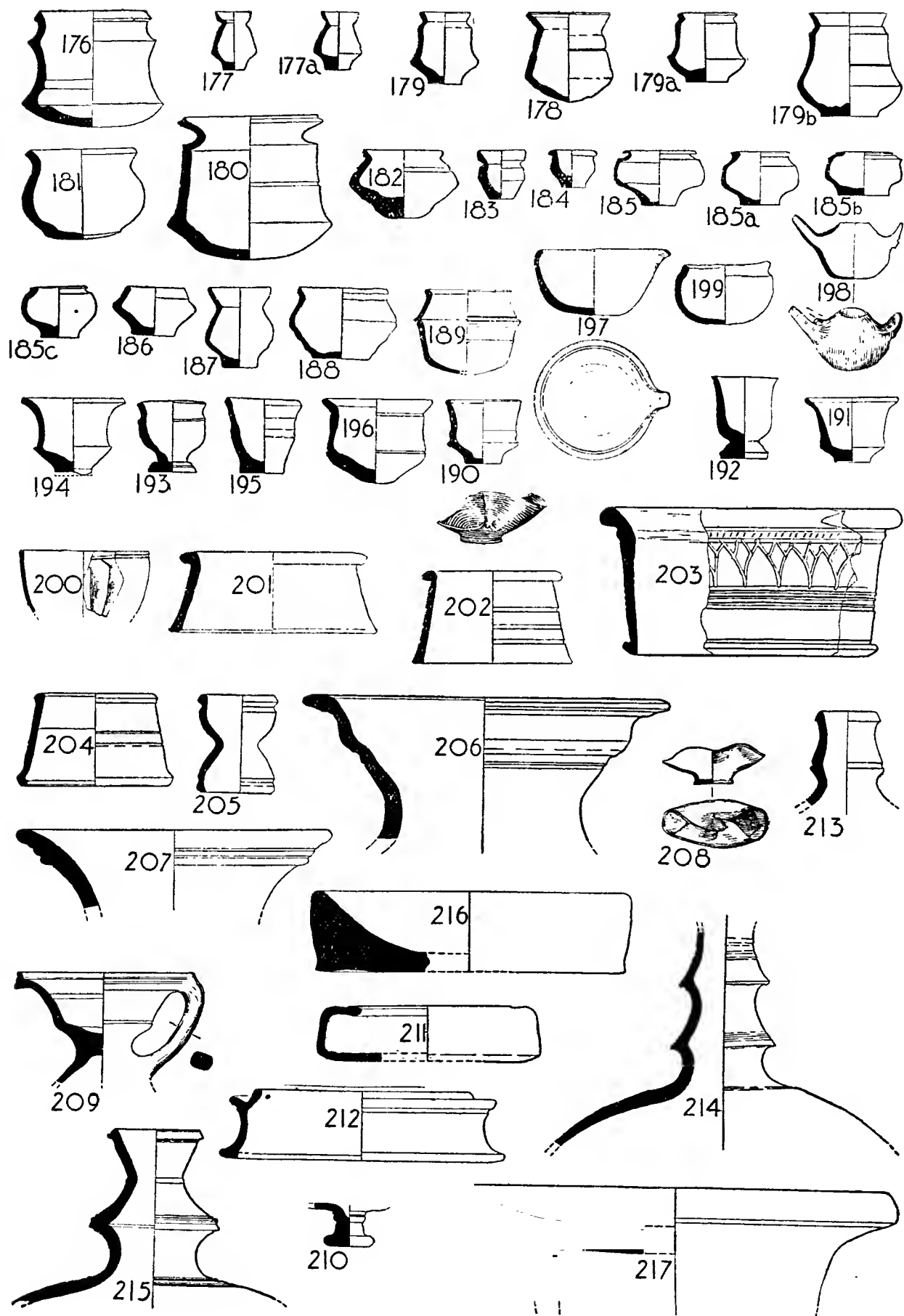


FIG. 34

Type 197. Lipped bowl with a slightly in-turned featureless rim, tapering sides and a flat base. The most conspicuous feature of the vase is its elegant lip apparently used for pouring liquid. Of fine fabric, it is treated both externally and internally with a red slip. This is the only example of the type and was recovered from Sub-period IV.

Type 198. Small vase (possibly a lamp) with a vertical featureless rim, a round body with a perforated lug, and two spouts. Of medium fabric, it is treated with a slip both externally and internally. The type comes from Sub-period V.

Type 199. Small lipped vase with in-turned featureless rim, round body and a flattened base. Of medium fabric, it is treated with a crimson-red slip. The type occurs in Sub-period VIII.

Type 200. Bowl with an externally grooved rim and sides decorated with a pattern resembling a leaf. Of medium fabric, it is treated both externally and internally with a chocolate red slip. The type is a unique one and occurs in Sub-periods VII and VIII.

Type 201. Ring-stand with a clubbed rim, expanding sides and a flat rim base. Of medium fabric, it is treated with a red slip. While some of these stands are plain others are decorated with incised geometric patterns. The type occurs in Sub-period III and continues upto Sub-period VIII.

Type 202. Ring-stand with a clubbed rim, expanding sides, grooved externally and a flat rim-base. Of extremely fine fabric with very smooth and glossy finish it is treated with a chocolate slip. The type occurs from Sub-period III to Sub-period VIII.

Type 203. Ring-stand with an out-turned externally thickened rim, slightly tapering sides and a clubbed rim base. The body is decorated with incised notches on the cordon immediately below the rim and connected lozenges enclosed within a series of grooves. Of medium fabric, it is treated externally with a slip. The type occurs from Sub-period V to Sub-period VI. Also pl. LXXII, 1.

Type 204. Ring-stand with an externally thickened rim expanding sides, externally grooved, and a sharply inturned rim-base. Of medium fabric, it is treated with a dull red slip. The type occurs from Sub-period V to Sub-period VIII.

Type 205. Hollow stand with a slightly out-turned internally thickened rim, a constricted profile and an externally grooved rim-base. Of medium fabric, it is treated with a bright red slip. It occurs in Sub-period V. Also available at Taxila (cf. *Taxila, III*, pl. 125, 131).

Type 206. Stand with a horizontally splayed out externally thickened rim and undulating sides. The lower part of the vase is missing. Of medium fabric, it is treated with a red slip. The type occurs from Sub-period VI to Sub-period VIII.

Type 207. Fragment of a vase with a flared out externally grooved rim. The type occurs from Sub-period VI.

Type 208. Miniature (boat-shaped) vase with the sides folded at the top and a small footed base. A large number of this type with variations was recovered from Sub-period VIII. Their use is, however, uncertain.

Type 209. Incense-burner with an out-turned externally grooved rim, a strap handle and a hollow pedestal base. The type occurs in Sub-period VIII. Also available at Ahichchhatra and Taxila (cf. *Ahichchhatra*, p. 51, fig. 6, 75, and *Taxila*, III, pl. 125, 134).

Type 210. Fragment of a pedestal base of a vase. Of medium fabric, it is treated with a black slip. The type belongs to Sub-period VIII.

Type 211. Vase with a horizontally splayed out thickened rim, vertical sides and a flat base. Of fine fabric, it is treated with a bright red slip. The type is a rare one and occurs in Sub-periods VII and VIII.

Type 212. Vase with a rebated featureless rim, concave sides and a flattened rim base. The flange near the rim was intended to receive a lid. Of medium fabric, it is treated with a bright red slip. The type occurs in Sub-periods VII and VIII.

Type 213. Fragment of a vase with a vertical featureless rim and a long convex neck. It occurs in Sub-period VI.

Type 214. Fragment of a vase with a long-ridged and concave-profiled neck and convex shoulders. It belongs to Sub-period VI.

Type 215. Vase with an out-turned thickened rim, a prominently ridged neck and convex shoulders. Of medium fabric, it is treated with a red slip. The type comes from Sub-period VI.

Type 216. Shallow dish with vertical thick walls and a flat base. The dish was possibly used as a brazier.

Type 217. Dish with splayed out sides and a hollow pedestal base. The type occurs in Sub-period VI.

(ii) *Decorated pottery* (pls. LXVI-LXVIII)

1. Sherd decorated with horizontal grooves and lozenges. Also see fig. 34, 203.

2. Deep brown slipped sherd decorated with incised triangles enclosed within grooves and alternately filled with zigzags. The pattern is available in Sub-period V.

3. Red slipped sherd decorated with zigzag incisions arranged vertically in nearly parallel rows.

4. Sherd with deep reddish chocolate slip decorated with incised wavy bands and grooves. The specimen is a rare one and occurs in Sub-period VII.

5. Partly red and partly light black, slipped sherd, decorated with incised hatchures. The type comes from Sub-period V.

6. Fragment of a dish. The upper surface has a deep reddish chocolate slip and is decorated with filled in triangles above a creeper (possibly vine) with leaf and fruits. It is a unique piece and comes from Sub-period VI.

7. Black-slipped sherd decorated immediately below the neck and on the body with oblique incisions. The sherd comes from Sub-period V. The motif is not a common one.

8. Red-slipped sherd decorated with a pair of incised lines enclosing a zigzag one. From Sub-periods VII and VIII.

9. Red-slipped sherd decorated with horizontal lines of incised zigzags. From Sub-period VI.

10. Sherd with a chocolate slip, decorated with a star-shaped pattern enclosed within grooves. The sherd comes from Sub-period IV.

11. Red-slipped upper part of a handle. The knob is decorated in the shape of an *amalaka* while the body is decorated with ribs, curvilinear lines enclosing wavy lines or zigzags and impressed circles surrounded by dots. From Sub-period VII. Also see fig. 35, 23.

12. Red-slipped sherd decorated with stamped leafy pattern.

13. Chocolate red-slipped sherd decorated with stamped loops within grooves and circles. The type occurs in Sub-period V.

14. Red-slipped sherd decorated with spirals in relief. From Sub-periods VII and VIII.

15. Red slipped sherd decorated with mould panel consisting of oblique cordons in relief filled with dots. From Sub-period VI.

16. Fragment of a jar decorated with a stamped stūpa-like object. The decoration consists of combination of segments of circles enclosing three circular balls. The uppermost segment is surmounted with what appears like the *yashṭhi* and Chhatra of a stūpa. The pattern is not a very common one and occurs in Sub-period III.

17. For a description of the decoration see fig. 34, 200.

18. Red-slipped sherd decorated with an incised flower above a pair of grooves. From Sub-periods VII and VIII.

19. Red-slipped sherd decorated with multi-grooves at the neck and a series of leafy objects on the shoulder. The leaf is probably that of *pipal*. The type comes from Sub-period IV.

20. The design is nearly identical with No. 16 above but the upper portion is missing.

21. Red-slipped sherd decorated in relief with fish-scale pattern. The specimen is a rare one and comes from Sub-period V.

22. Deep brownish red-slipped sherd decorated with deeply incised criss-cross lines forming rough diamonds. The specimen occurs in Sub-period VI.

23. Chocolate-slipped sherd decorated with intersecting lines forming a cheque pattern. From Sub-periods VII and VIII.

24. Chocolate-slipped sherd decorated with two panels of incised lines, the upper being intersecting lines forming a cheque pattern, while the lower shows double vertical columns of incised dots. The sherd occurs in Sub-period VII.

25. Chocolate-slipped sherd decorated with intersecting incised lines in the fashion of No. 22 above. Toward the lower portion of the sherd the decoration

consists of parallel oblique lines against a presumably filled-in triangle. The sherd occurs in Sub-period VII.

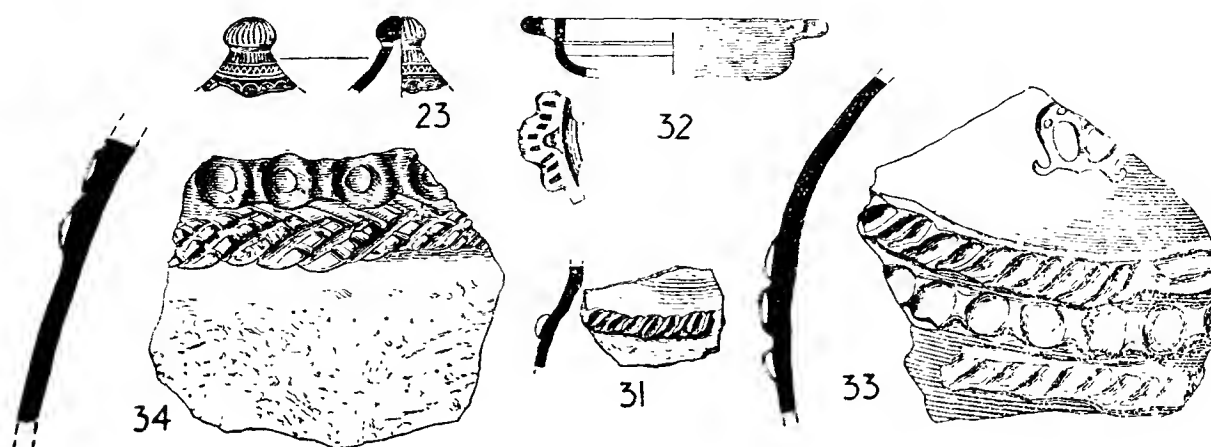


FIG. 35

26 and 27. Chocolate-slipped sherds decorated with incised cheque pattern.

28. Chocolate-slipped sherd decorated with incised cheque pattern above a group of converging lines surmounted by horizontal lines.

29. Chocolate-slipped sherd decorated with an incised cheque pattern above zigzag lines. From Sub-periods VII and VIII.

30. Highly ornamental handle with a chocolate slip. The base of the handle is decorated with four applied bands of which the first and the last have been pierced with notches. The top of the handle is marked with a *triratna* symbol. The wheel at the base of the *triratna* is decorated with a dot enclosed by a circle with a ring of eleven dots. It is flanked by two ear-like projections and is bordered by applique wavy line. The three horn-like volutes are decorated by grooves, punched circles and notched cords. The specimen is a rare one and is obtained from Sub-period V.

Fig. 35

31. Red-slipped sherd with an applique cord showing finger-nails incisions.

32. Rim-fragment of a black-slipped basin with a lug handle, decorated on top with deep notches. Unstratified.

33. Red-slipped sherd with finger tip design enclosed by two rows of cord pattern. An incomplete design is also seen at the upper end.

34. Red-slipped sherd of coarse fabric, decorated with an applique band showing circles above a criss-cross pattern. From Sub-periods VII and VIII.

5. SPOUTS (Fig. 36)

Excavation at KS-I and KS-III yielded in all 21 spouts. Of these 5 are from KS-I and the remaining 16 from KS-III. They can be divided into three principal types (i) plain spouts of a purely utilitarian character (four examples);

(ii) spouts simulating the shape of a crocodile or a *makara* (fifteen examples) and (iii) spouts with strainers (two examples). Of these, type (ii) as evidenced by its frequency was more in popular demand than the other types. It is to be noted that all these three types were in vogue simultaneously. The *makara* has played a very important part as an art-motif in India. For a discussion of the significance of this motif and its connection with water cosmology attention may be drawn to Coomaraswamy's *Yaksha Chronology*.¹ From the foregoing evidence, it is clear that the motif was quite popular at Kauśāmbī also.

All the specimens of type I illustrated here (fig. 36, 1-4) are confined to Sub-periods VI—VIII. Other spouted vessels of the period have already been described (above p. 175f.).

With the doubtful exception of one, all the specimen of type (ii) fig. 36, 5-19) belong to Sub-periods V to VII, the largest concentration being in Sub-period V. They are distributed as follows : 7 from Sub-period V; 5 from Sub-period VI; and 3 from Sub-periods VII and VIII. The specimens show a progressive deterioration in later levels. The types of Sub-period V are more naturalistic. The delineation of the eyes, nose, teeth, snout and the crown on the mouth of the scales is much more life-like. The snout is also longish. The specimens of of Sub-period VI are fewer in number and generally lack the realism and virility of the specimens of Sub-period V. As compared to the above the three specimens from Sub-periods VII and VIII are crude.

The distinguishing feature of type (iii) (fig. 36, 20) is the provision of a lattice at the luting point. The type of the vessel having such a spout is the famous *surahi* type (fig. 32) and occurs in Sub-periods V and VI.

Fig. 36 ; pl. LXIX.

T. 1. A plain spout-disproportionately long and with a knobbed mouth. Length 2 in. From Sub-period VII.

T.2. Plain spout. The knobbed mouth is defined by a groove. Length 2 in.

T. 3 and 4. Also plain spouts. In each case the mouth has a knob. No. 3 is linked with spouts of the third type by the roundedness at the base.

T. 5. May be regarded as the standard specimen of the group. The eyes have been punched into the base of the spout. The nose is indicated by a pin hole. The two jaws have been shown wide apart. This has provided opportunity to the potter to display the teeth. The crown on the upper jaw is well proportioned. From Sub-period V. Also pl. LXIX, 1

T. 6. The eyes, sockets, pupils etc., have been shown in relief. From Sub-period V. Also pl. LXIX, 8.

T. 7. It lacks the proportion and realism of Nos. 5 and 6. A new feature of this specimen is the two dimples at the base of the mouth. Also pl. LXIX, 10.

¹A.K. Coomaraswamy, *Yaksha*, pt. II, p. 47.

T. 8. This is similar to the above but for the snout which is in the present case smaller. Also pl. LXIX, 11.

T. 9. The method of representation of dimples, eyes, snout, teeth is different in this case. Rows of teeth have been shown by pin holes. From Sub-period V. Also pl. LXIX, 2.

T. 10. The shape in this case is a little outlandish. The crown and the dimples are shown on alternate sides, which is inaccurate. The upper and lower rows of teeth are shown by oblique parallel lines in relief. From Sub-period V. Also pl. LXIX, 3.

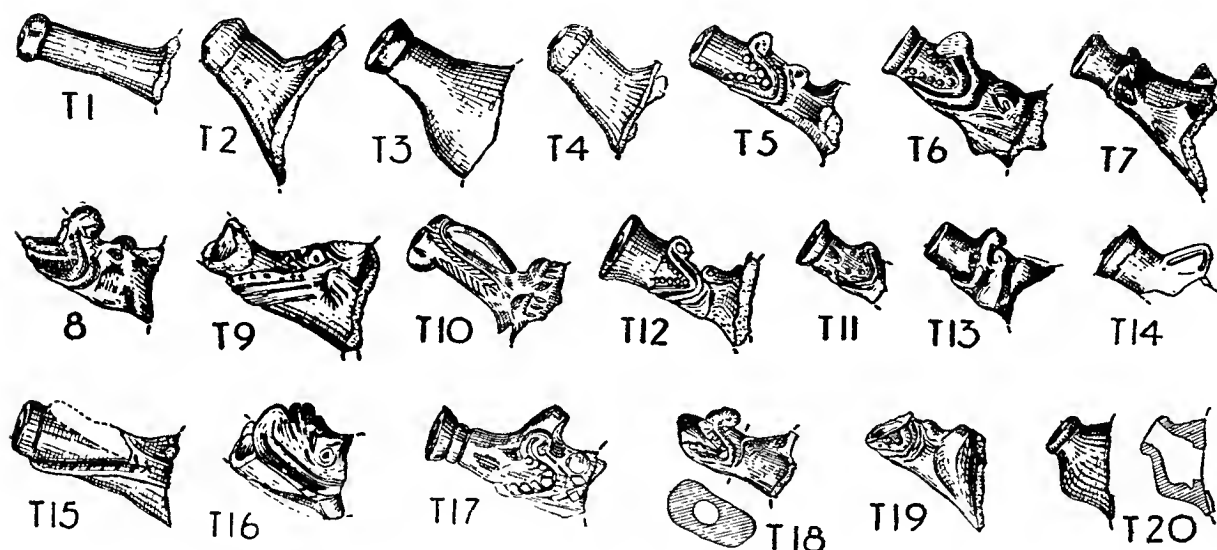


FIG. 36

T. 11. It furnishes the only example of a type dressed in black colour. Strati:graphy is uncertain but in all probability it belongs to Sub-period V.

T. 12. Allied to Nos. 5 and 6 above. The mouth of the spout is larger in proportion to the snout of the crocodile. From Sub-period VI. Also pl. LXIX, 9.

T. 13. Similar to No. 12, but shows a still greater lack of proportion. From Sub-period VI. Also pl. LXIX, 7.

T. 14. A degenerate variation of Nos. 12 and 13 above. From Sub-period VI.

T. 15. An extremely crude specimen of the type. The representation merely perpetuates an earlier tradition. From Sub-period VII. Also pl. LXIX, 12.

T. 16. A debased and grotesque variation of Nos. 5 and 6 above. From Sub-period VI. Also pl. LXIX, 4.

T. 17. Shows further degeneration of the type. Crown has assumed the shape of a beak. The upper and lower jaws and the teeth have been shown in relief. Proportion is completely disturbed. From Sub-period VII. Also pl. LXIX, 5.

T. 18. A more realistic specimen than the preceding example. Probably from Sub-period VII.

T. 19. A variant of the above. Probably from Sub-period VII.

T. 20. The best specimen of the group. The spout and the lattice were prepared separately. First the lattice was joined at the base of the spout which was thereafter luted to the *surahi* in such a way that the lattice would exactly fit into the perforation in the body of the vessel. From Sub-period V.

Another specimen of this variety (pl. LXIX, 6) is a class by itself. It is a spout modelled after some animal, possibly elephant and is the only example of its kind from the excavation.

6. WHITE-COLOURED POTTERY

An altogether new ceramic industry is represented by a few sherds, mostly shapeless, discovered in Cutting KS.III. In material, fabric and finish they show a marked resemblance with modern China ware. The core and the surface are white in colour. In some cases, however, due to uneven and incomplete firing,

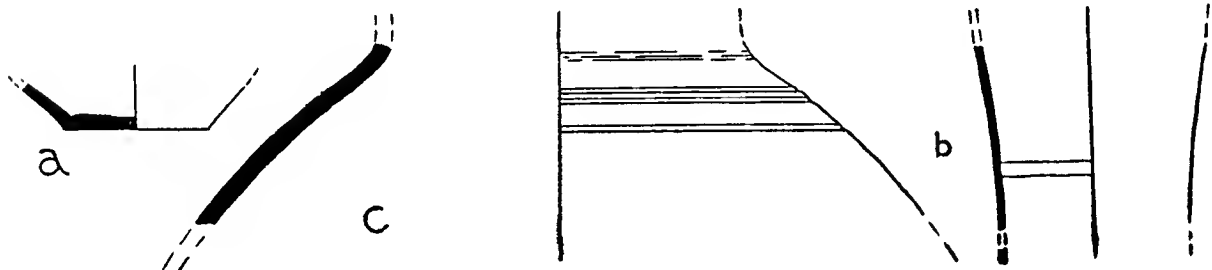


FIG. 37

a light grey core is obtained. The Archaeological Chemist to whom the sherds were sent for analysis reports that they appear to have been made out of kaoline or china clay. These pieces thus show an abortive attempt by Indian Potters to produce some glazed pottery. Their number, however, suggests that they might have been imported and not a local manufacture.

Fig. 37

- a. Fragment of a vase with a flat base. From Sub-period II.
- b. Neck fragment of a vase with long thin walls. From Sub-period II.
- c. Fragment of a jar with convex shoulders, distinguished by grooves. From Sub-period III.

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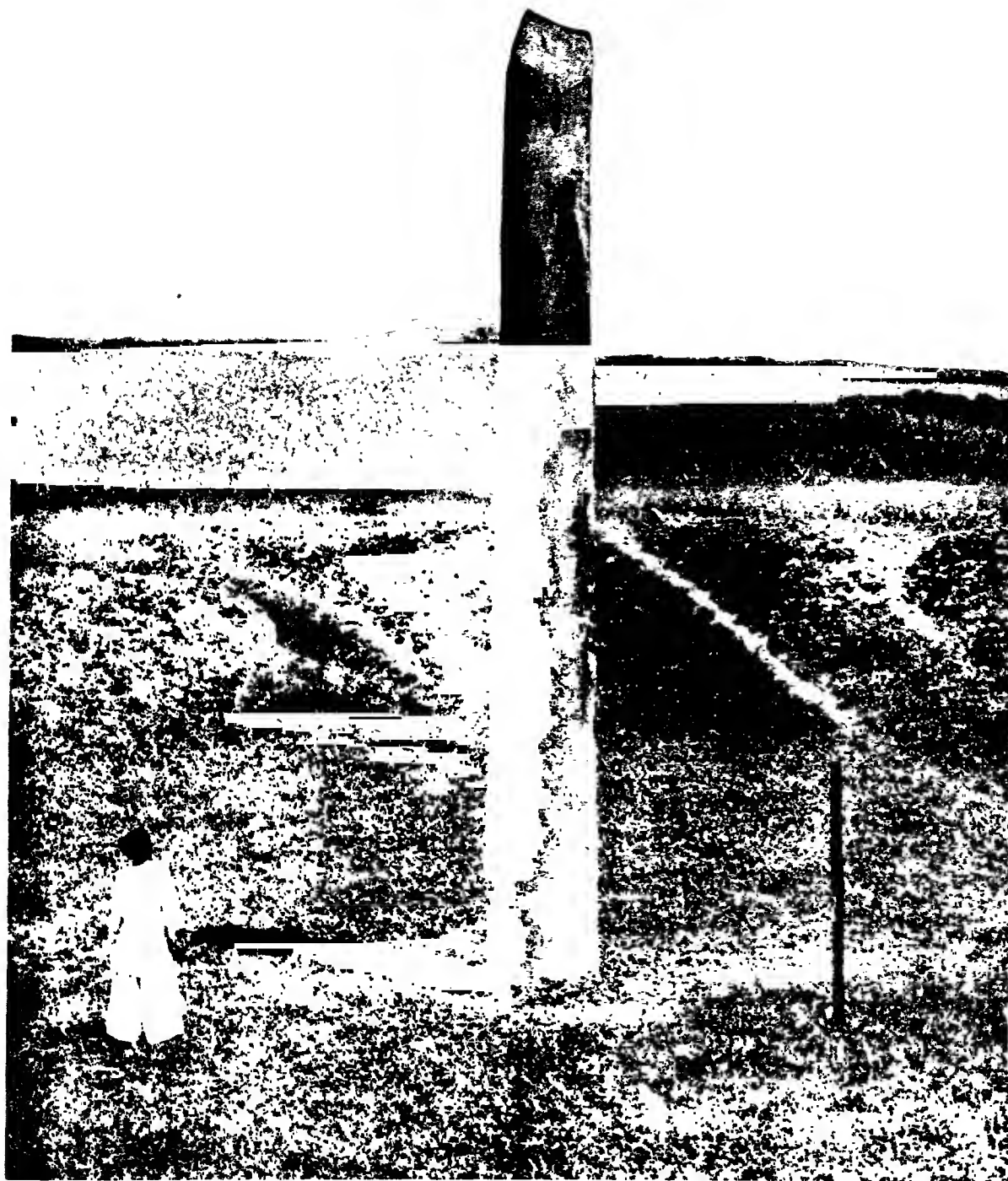
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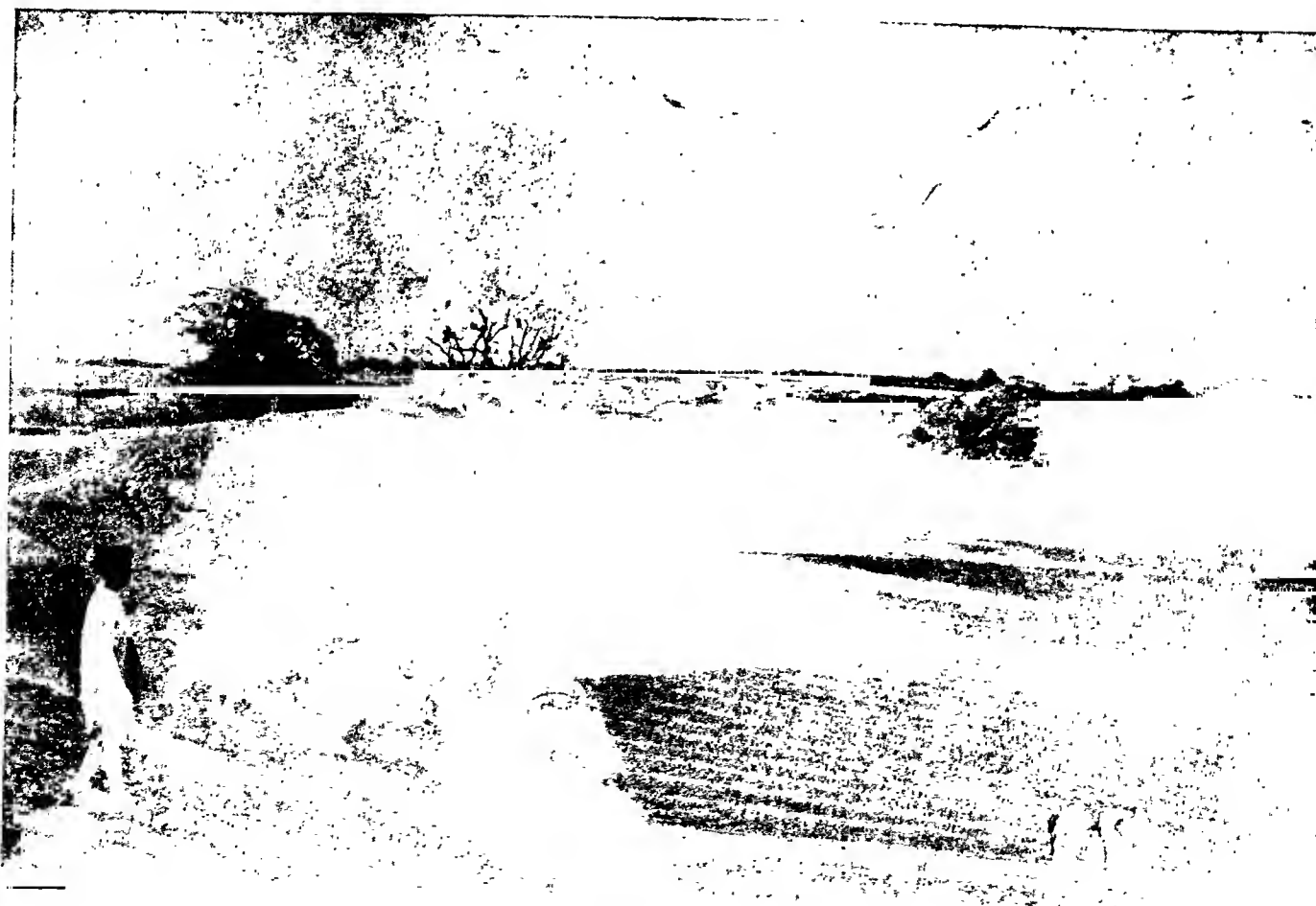
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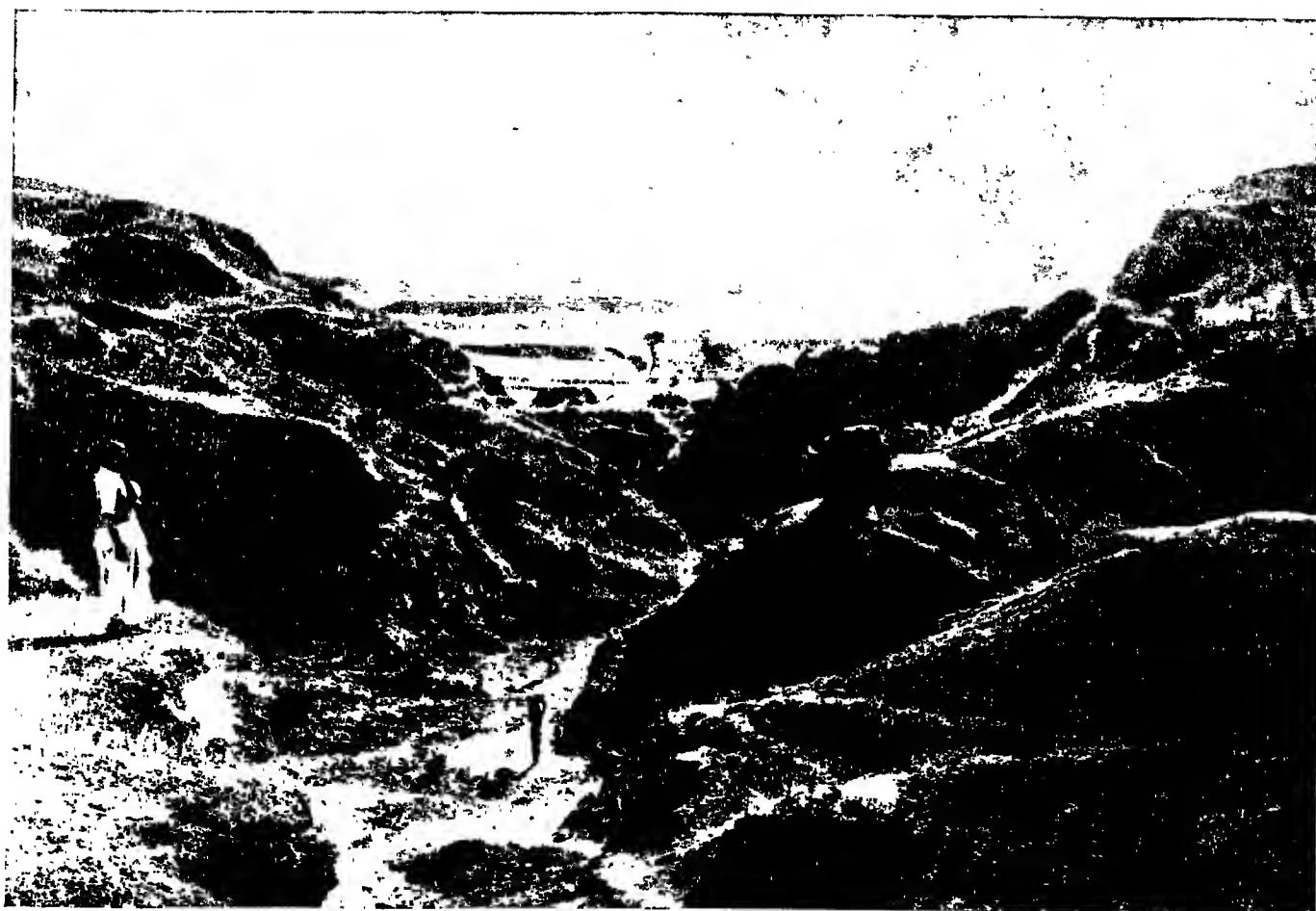
A, view of the rampart, northern side



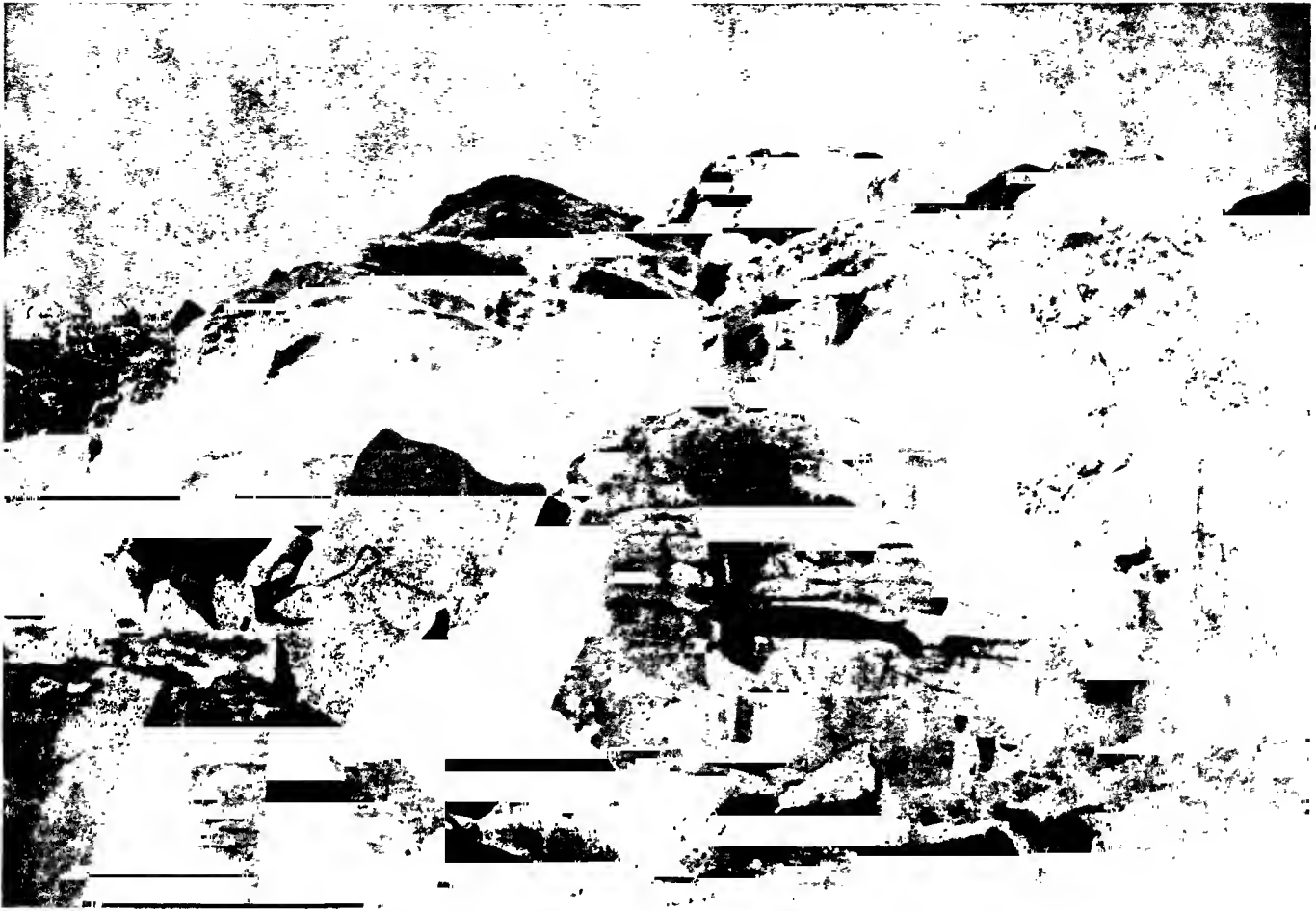
B, view of the rampart, eastern side



A, view of the rampart, western side



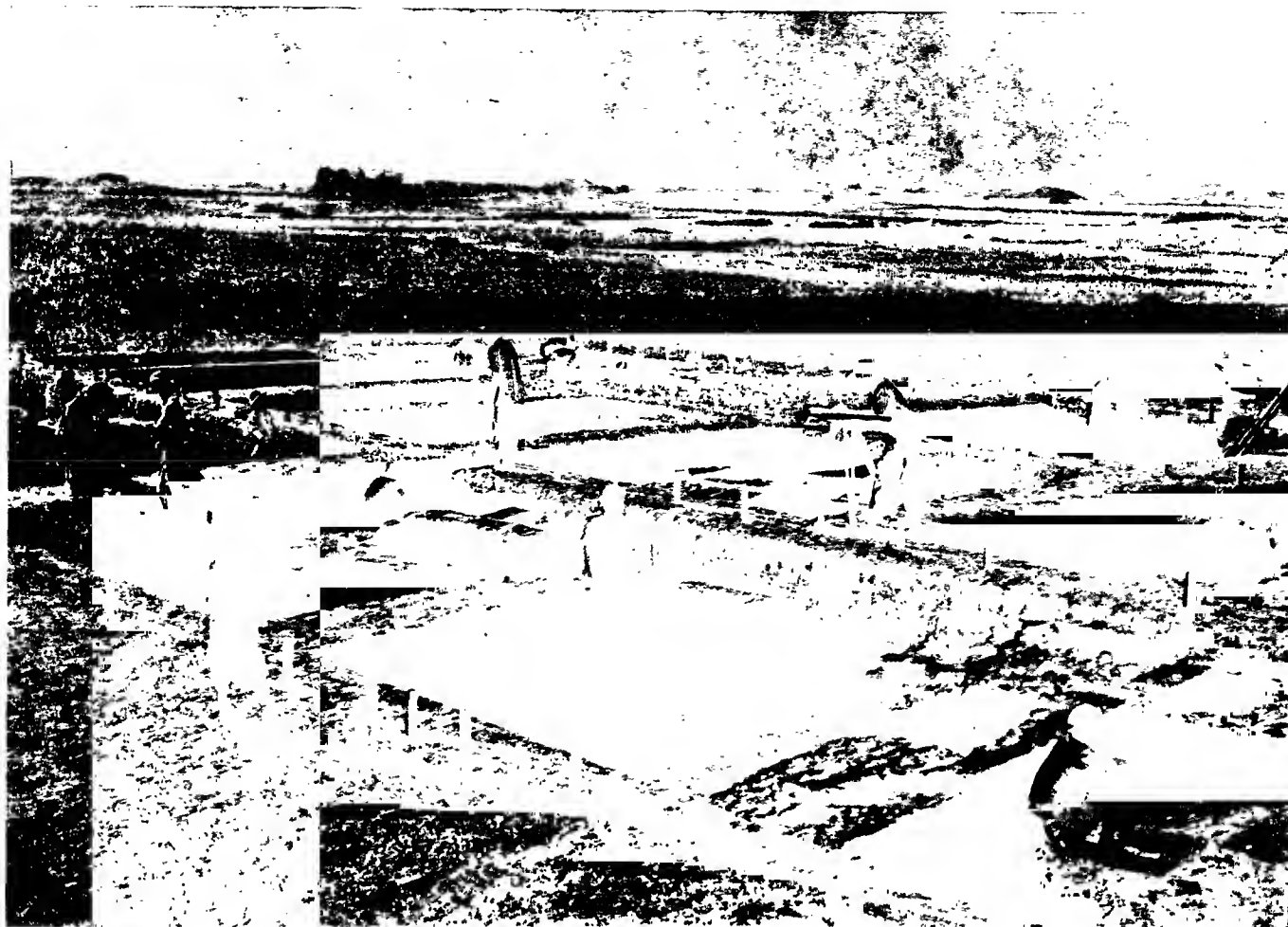
B, main gate on the eastern side



A. Pabhosa hill



B, general view of excavations, 1950



A, general view of excavations, 1949



B, road showing different levels and cart-ruts, SP VI



B, lane 1 with ring-well 7



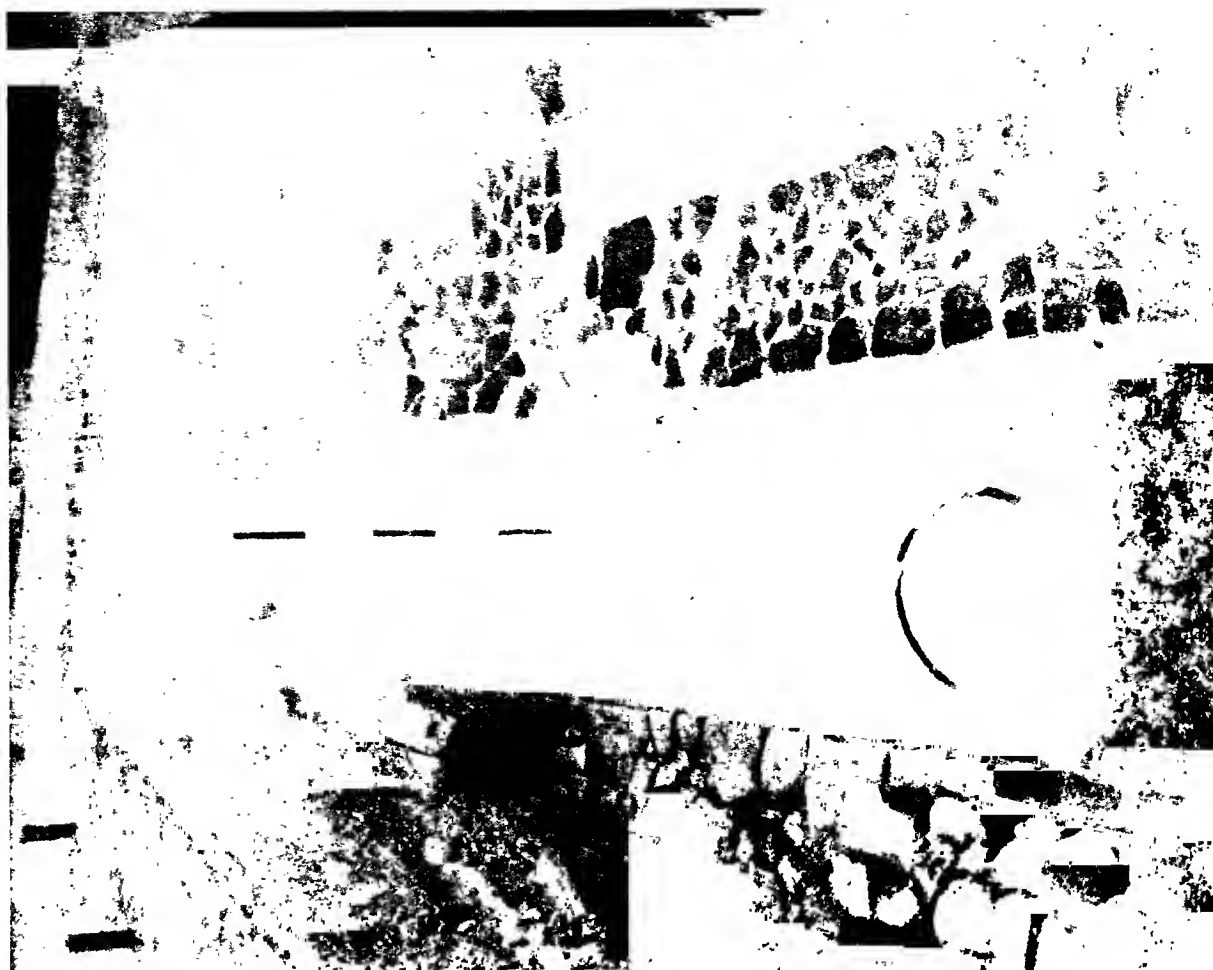
A, lane 1 with soakage-jar 3



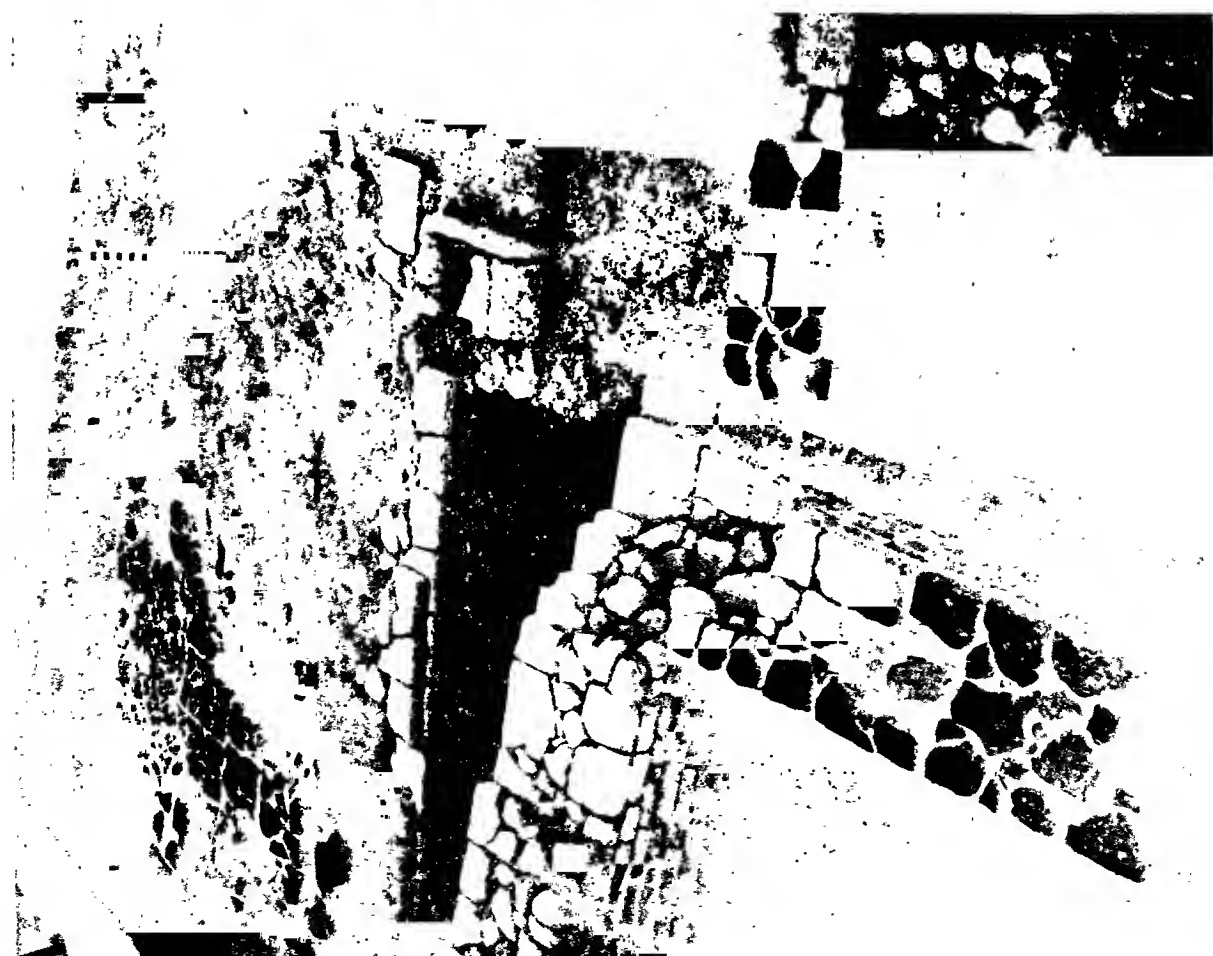
A, close up of soakage jar 3 in lane 1



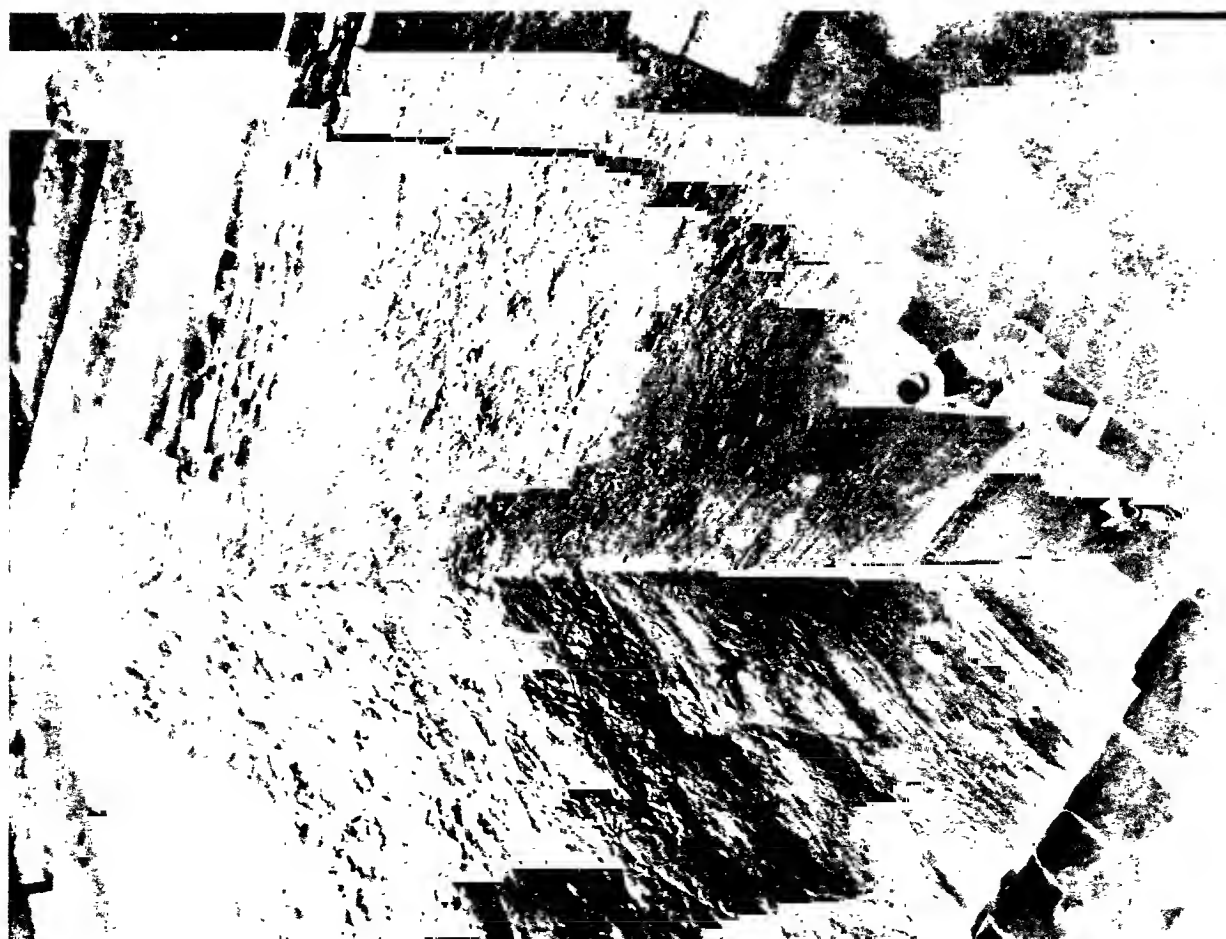
B, party-wall between lane 1 and bye-lane 2



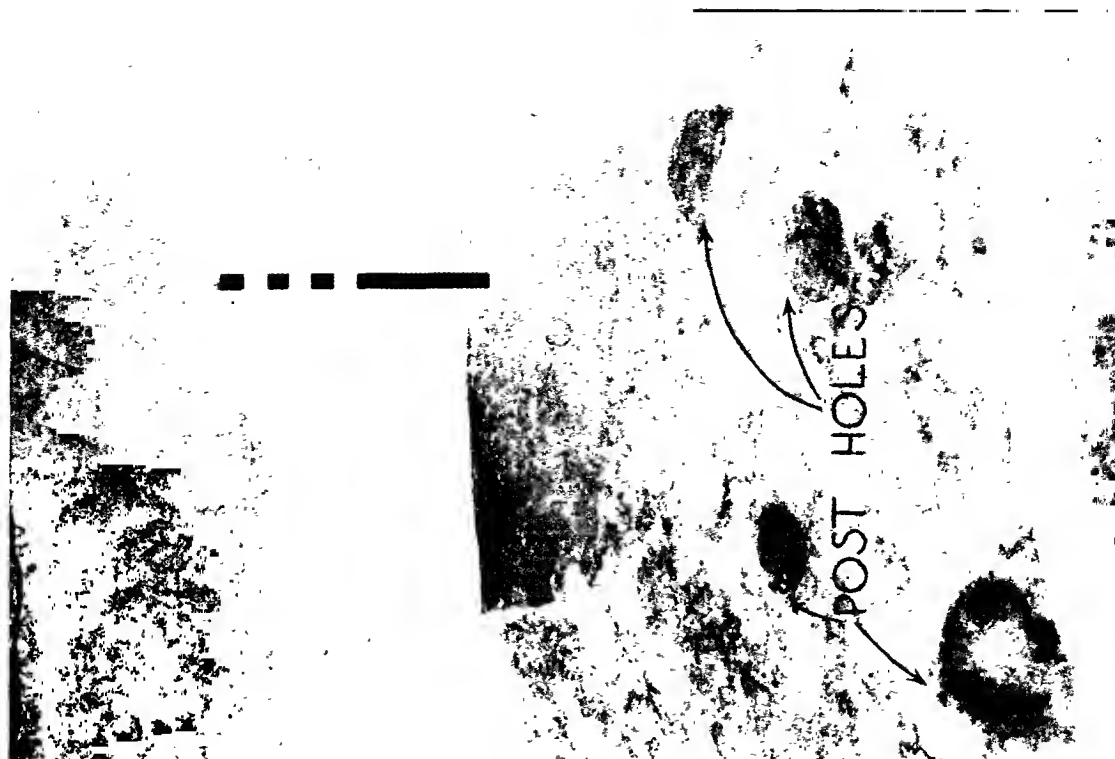
B, lane 3 with ring-wells 9 and 10



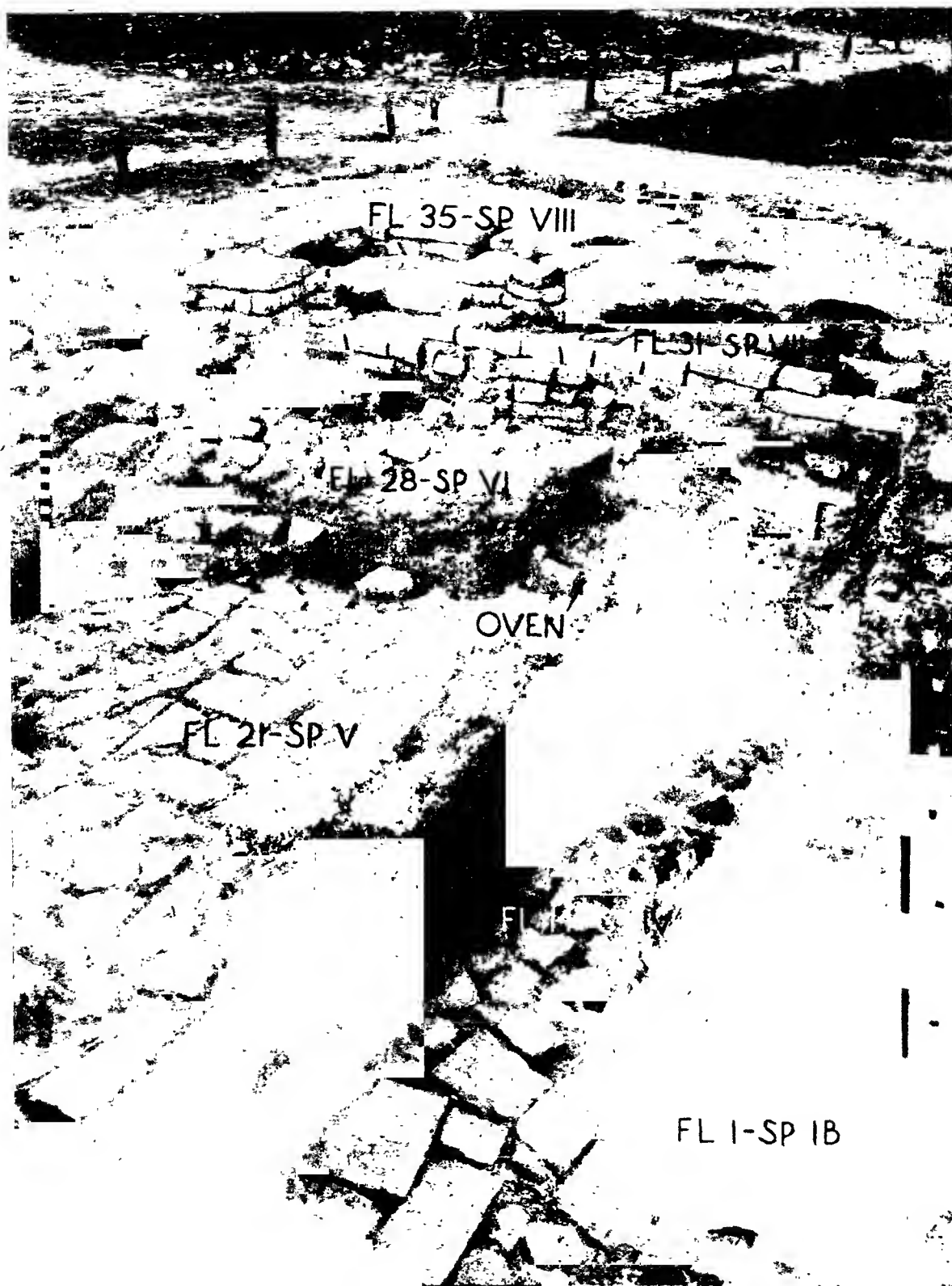
A, cross-wall with drain and post-hole in lane 1



A, Trench, KS III



B, Trench, KS III, post-holes in Painted Grey Ware level



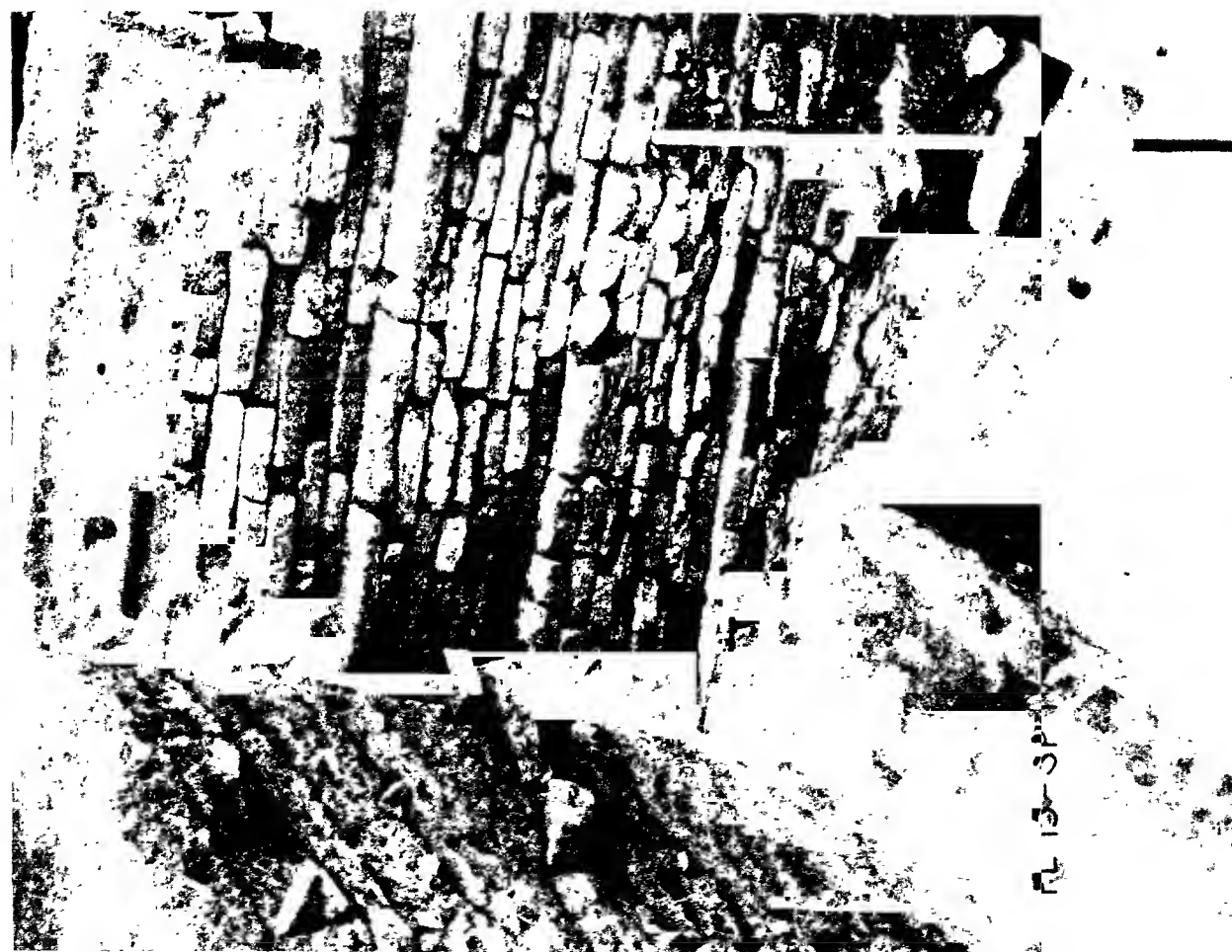
KS I : floors from SP IB to SP VIII



KS I : walls and floors from SP IV to SP VIII



B, KS I : floor and walls SP from SP III to VII

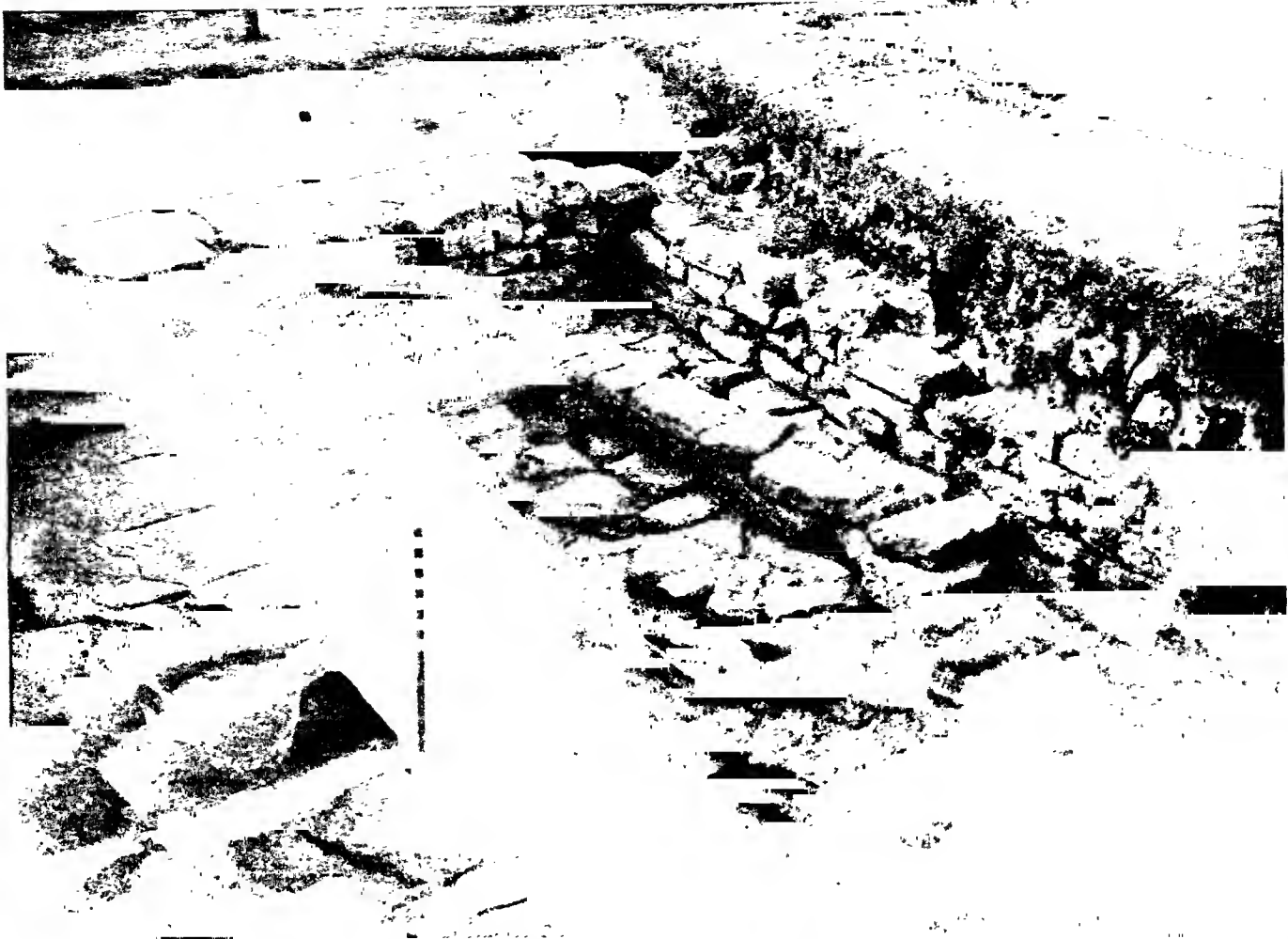


FL 2-SP IB

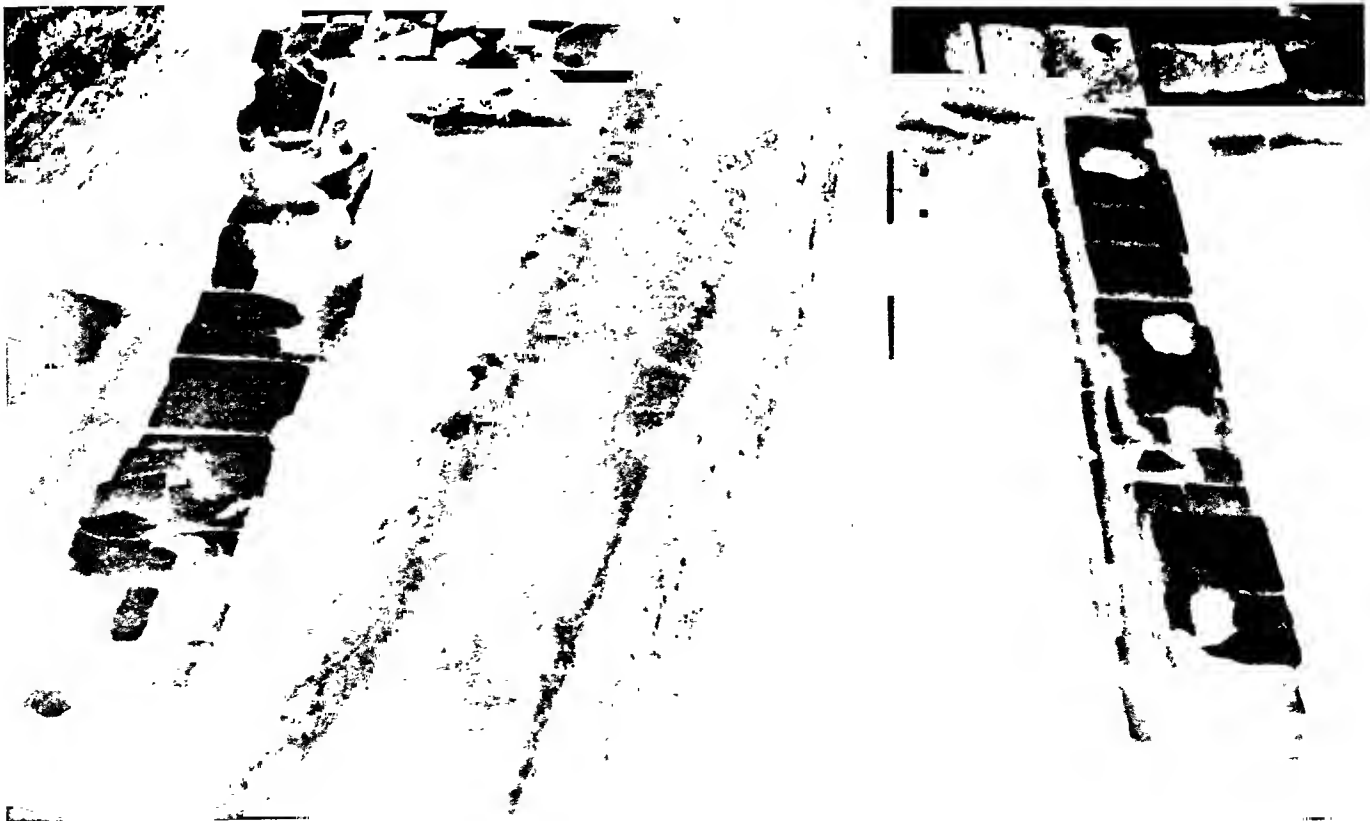
A, KS I : floors and walls from SP IB to SP VIII



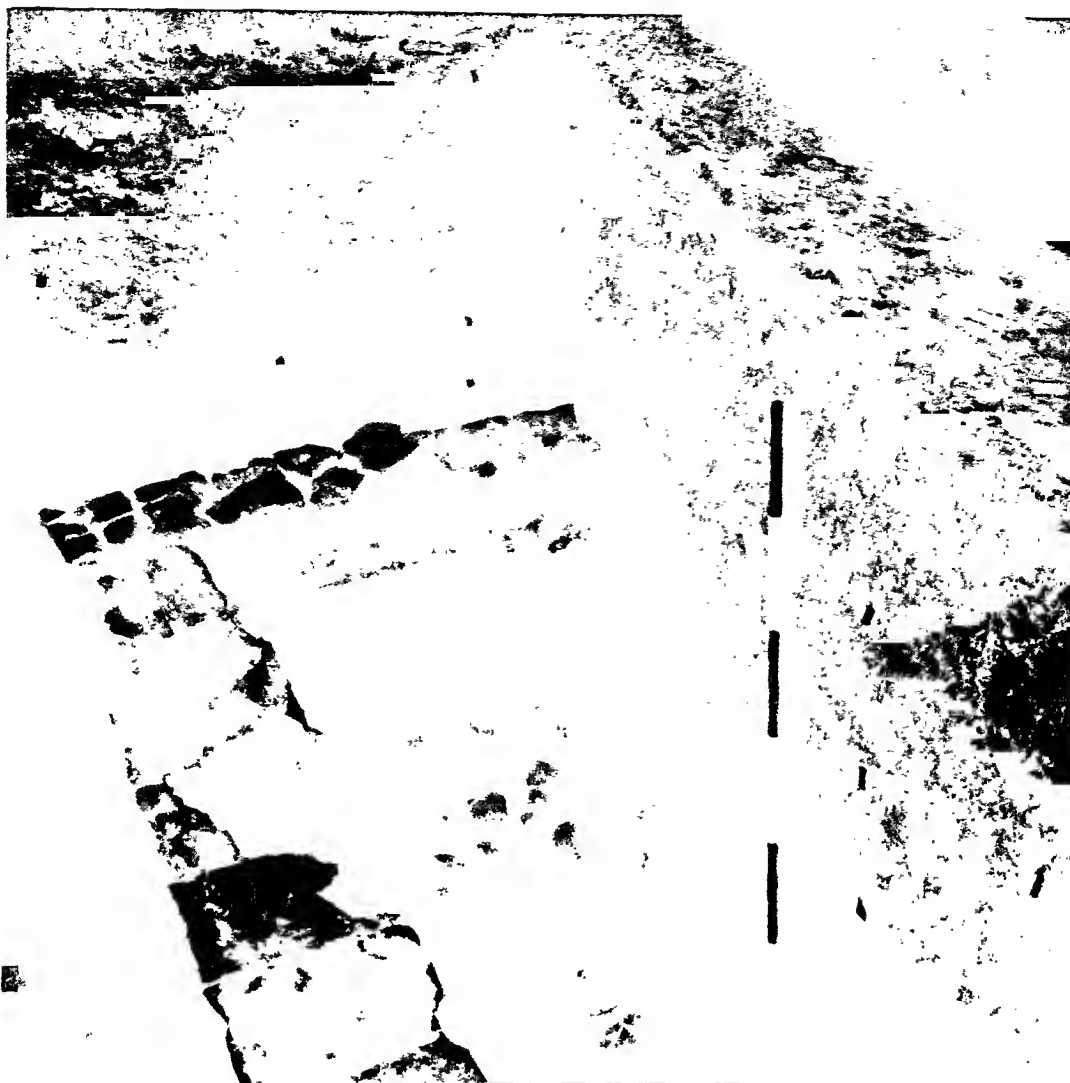
KS 1 : brick tank 2 and adjacent rooms



A, KS I : steps against wall AL



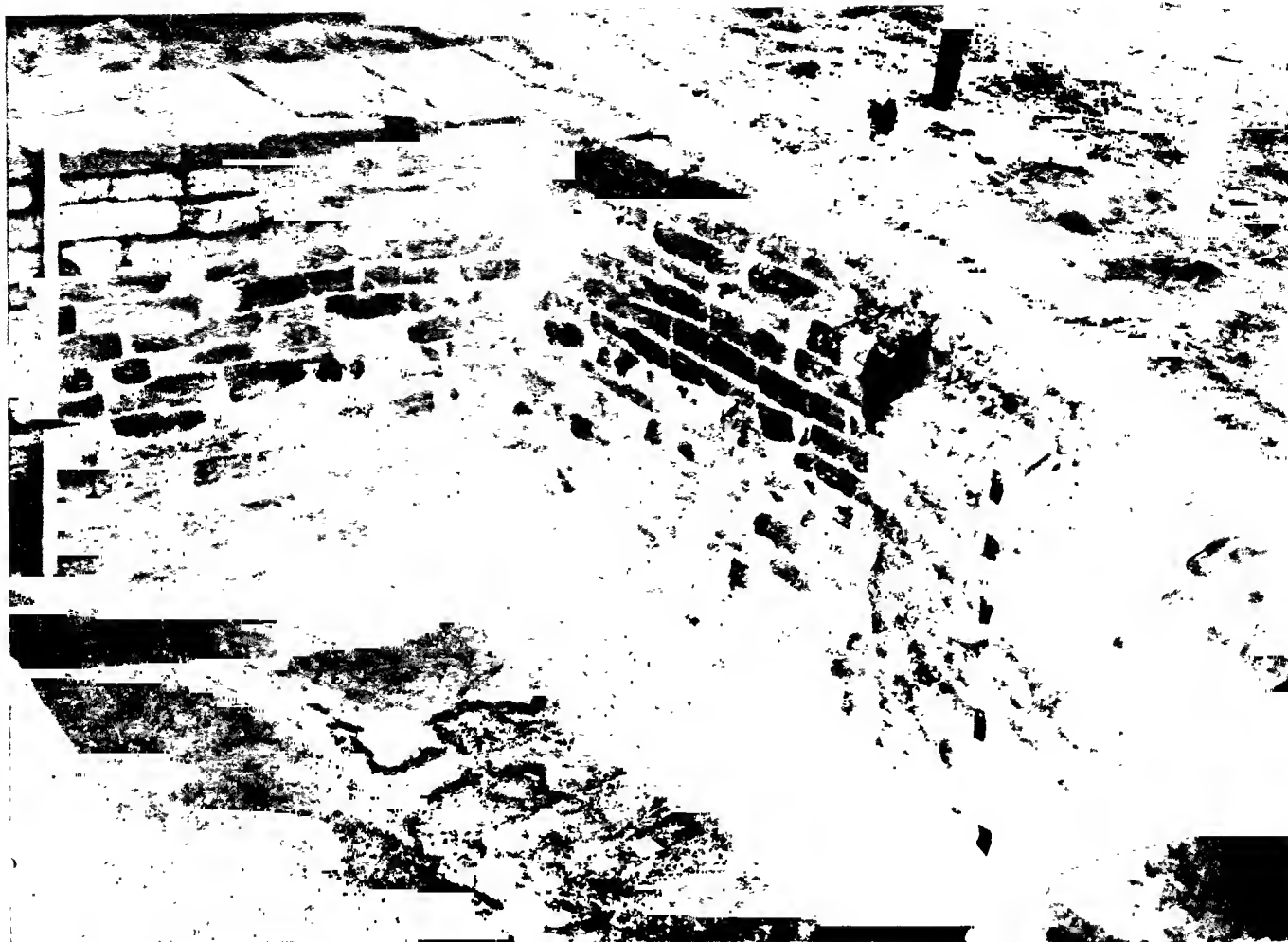
B, KS III : post-holes in room I of house no. 3 of Jarayadeva



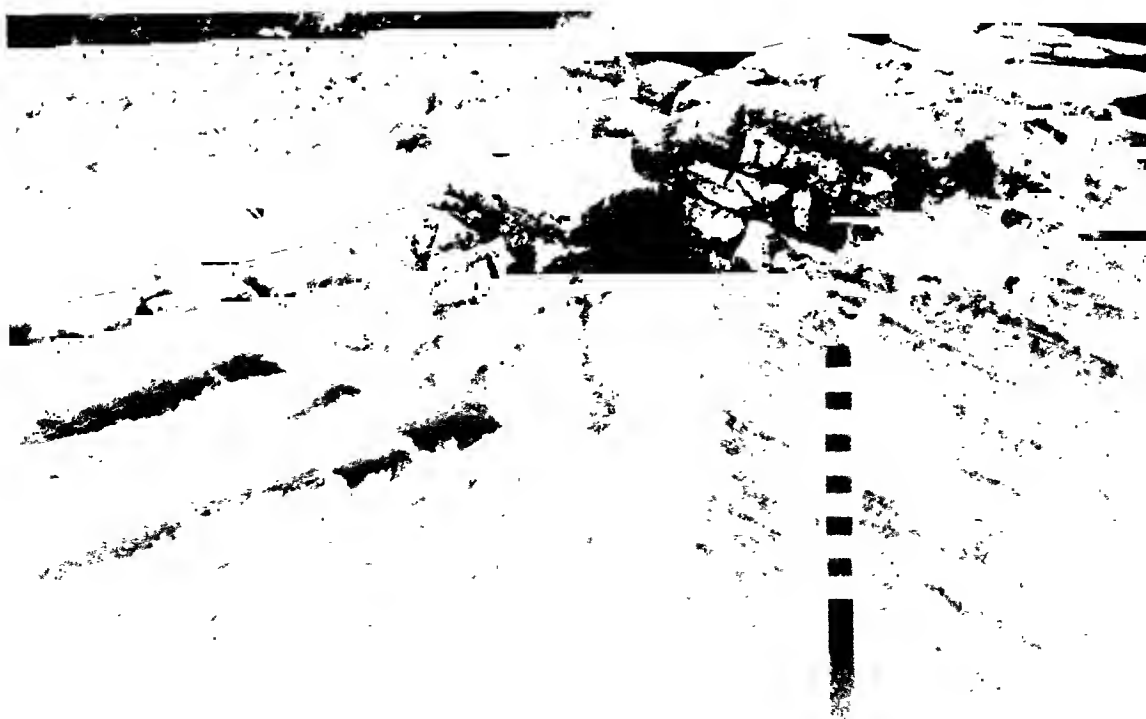
A, KS III : pottery-dump in room 1 of house no. 3 of Jarayadeva



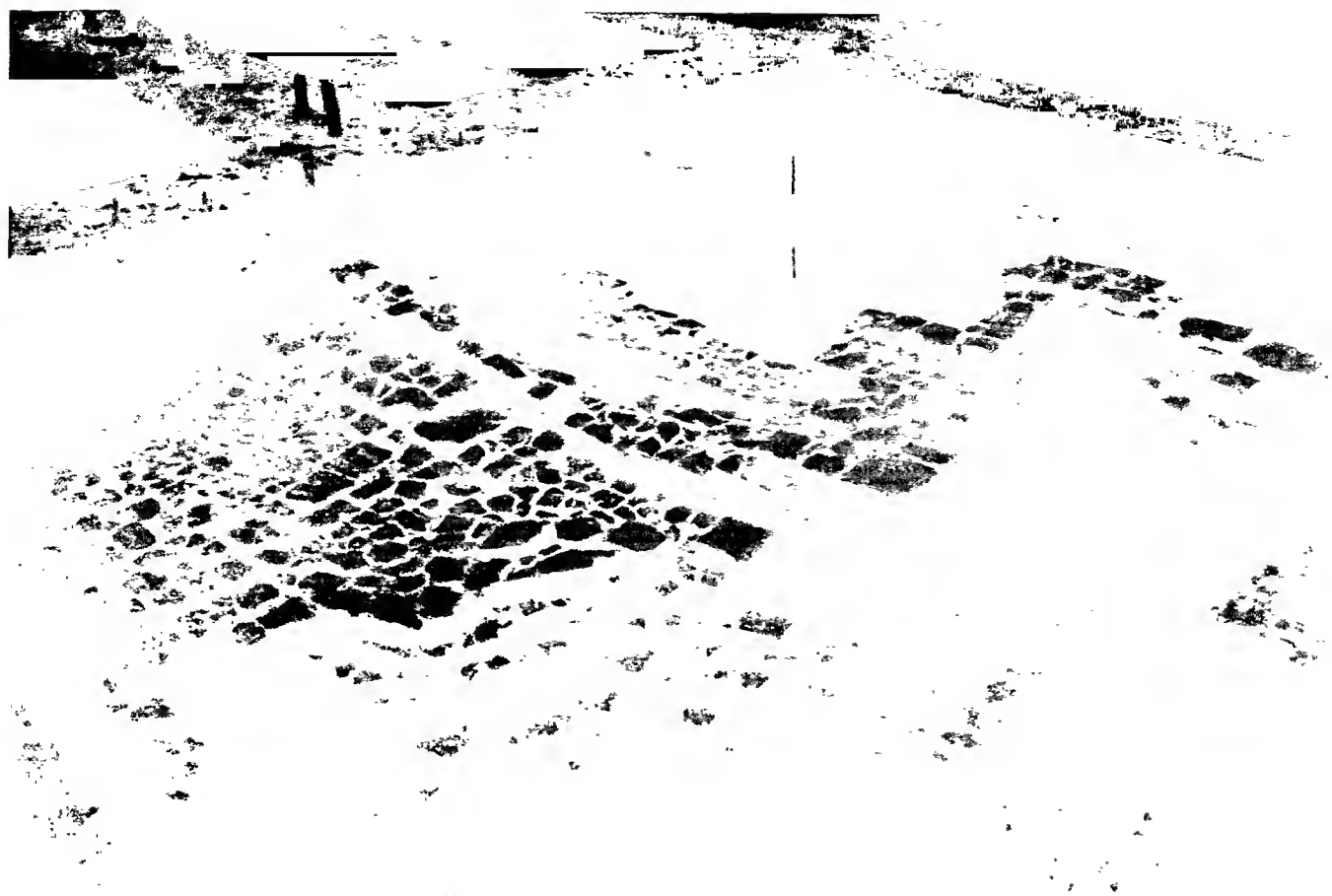
B, KS I : pottery-dump between wall WW 2 and wall WW 4 on section AB



A, KS I : tiles between walls NN 2 and NN 5



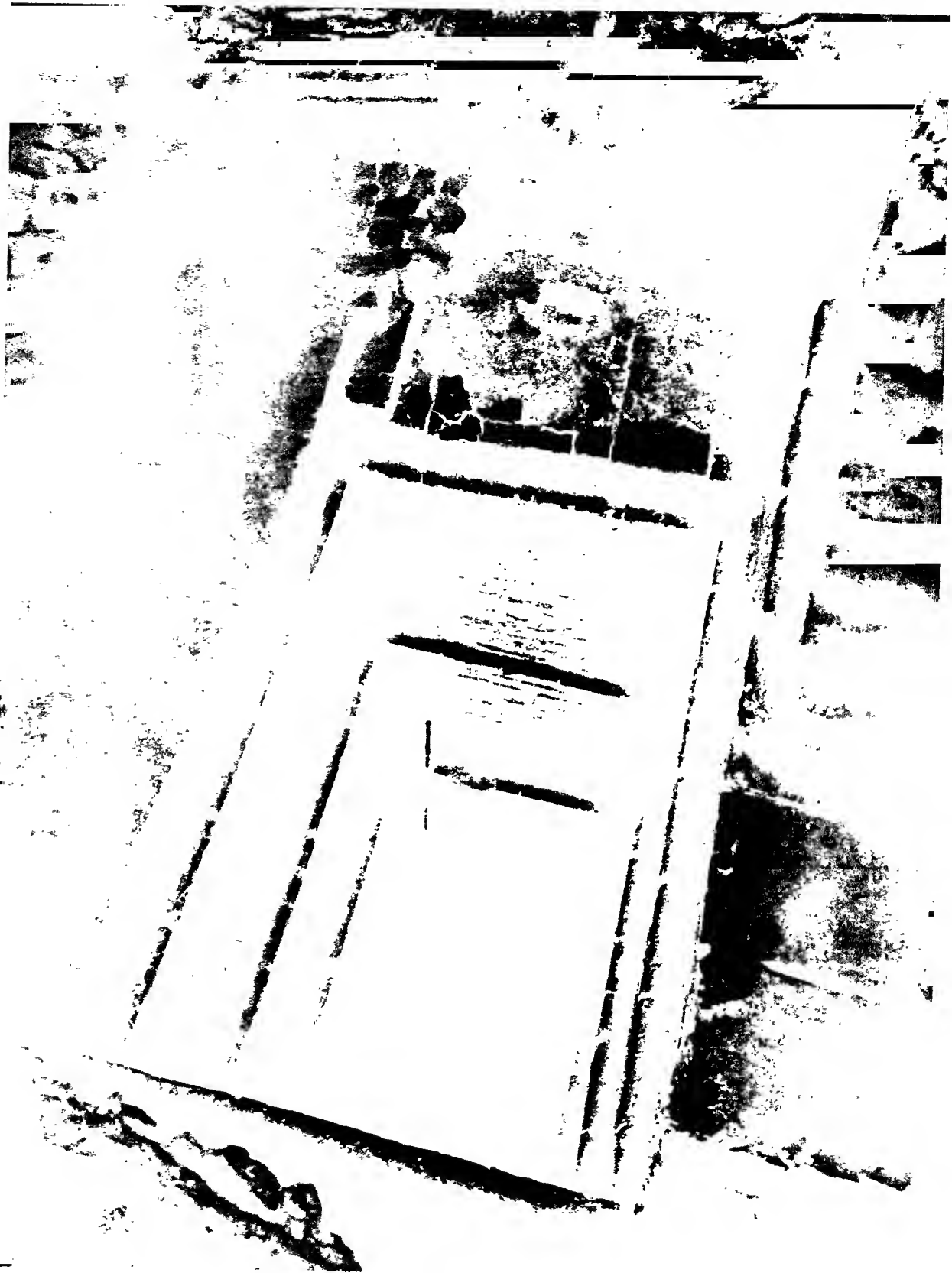
B, KS III : post-holes in wall AN 1



A, KS III : courtyard of house no. 5 (floor 26 and drain 6)



B, KS III : verandah in house no. 5 formed by walls BJ 2 and BN



Brick tank 2



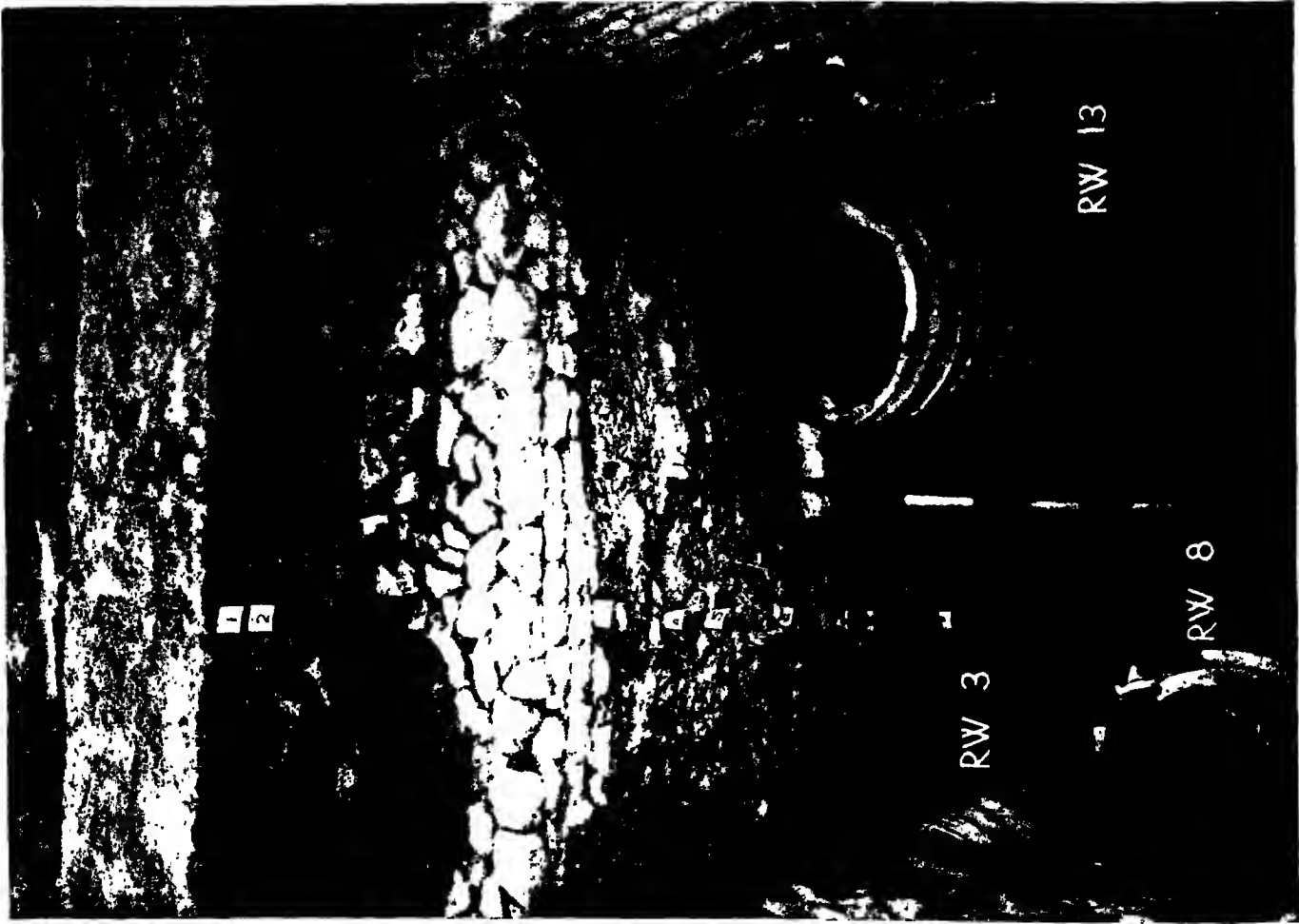
A, KS III : drain and floors of SP VI and SP VII



B, KS III : drain of pottery pipe (Dr. PP) 3 of SP IV



B, KS III : drain, pottery pipe 2 of SP II



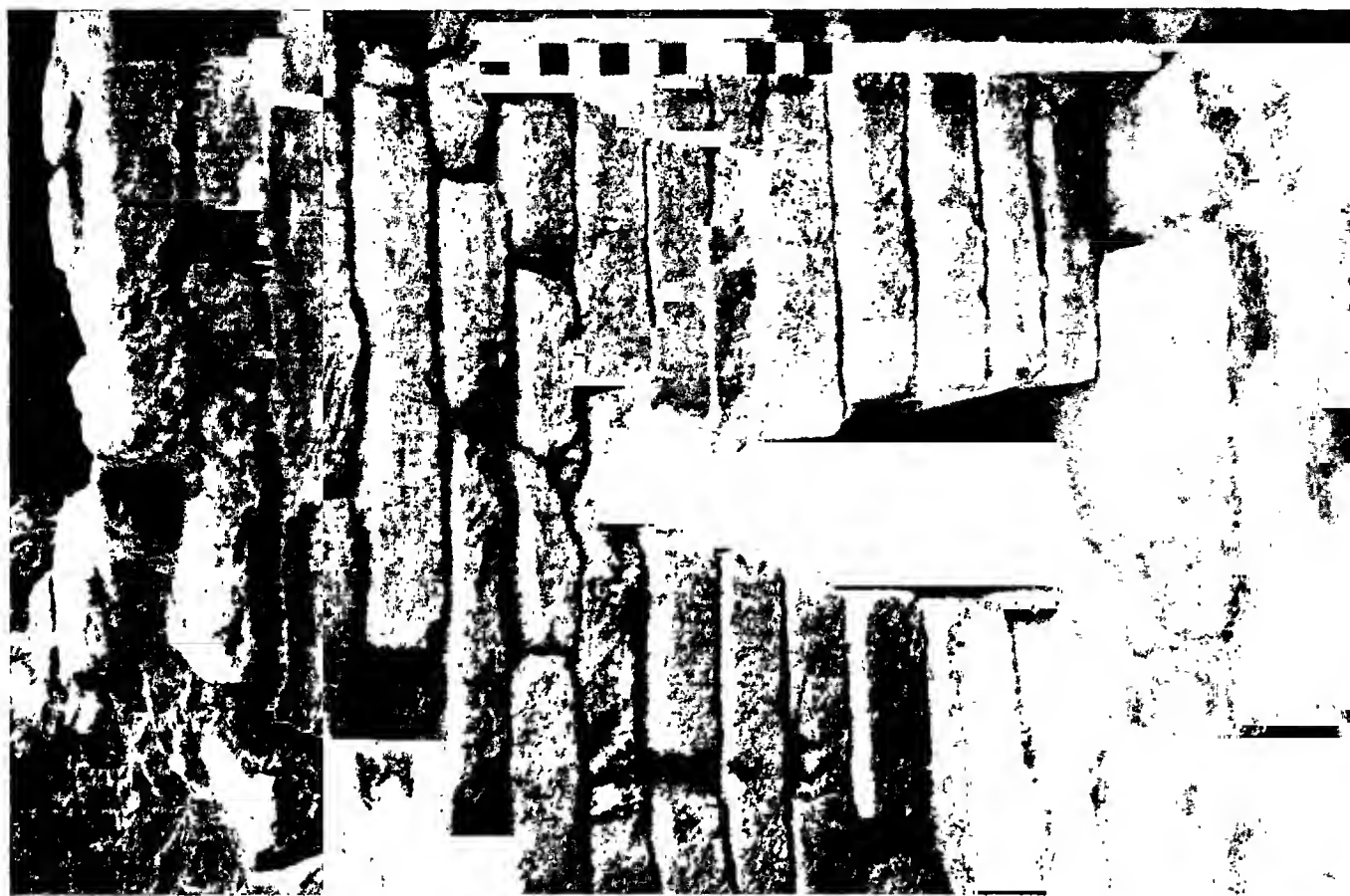
A, KS III : ring-wells 3, 8 and 13



A, KS III : drain 7, SP IV



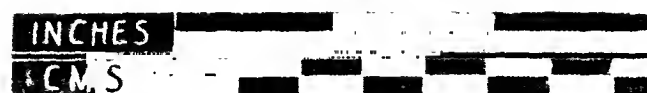
B, KS I : drain 12, SP VIII



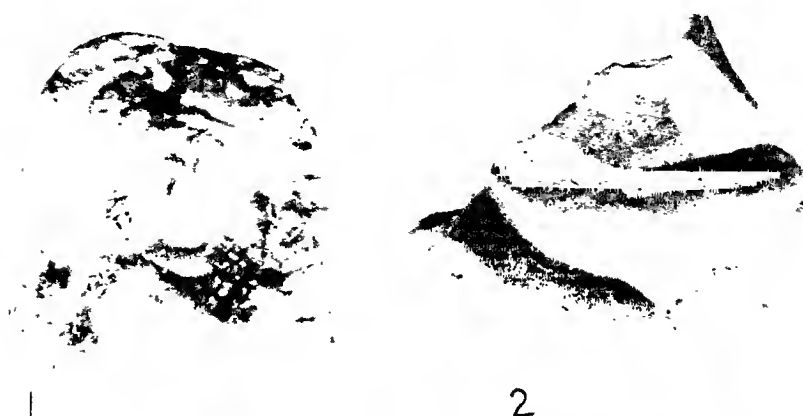
B, KS I : corbelled arch in drain 9 of SP VI



A, KS I : drain of SP VII overriding drain 3 of SP V



A, terracotta human figurines, indigenous types, 1, PS IV, 2, SPIA



B, terracotta human figurines, indigenous types, 1, SP IA, 2, SP IB



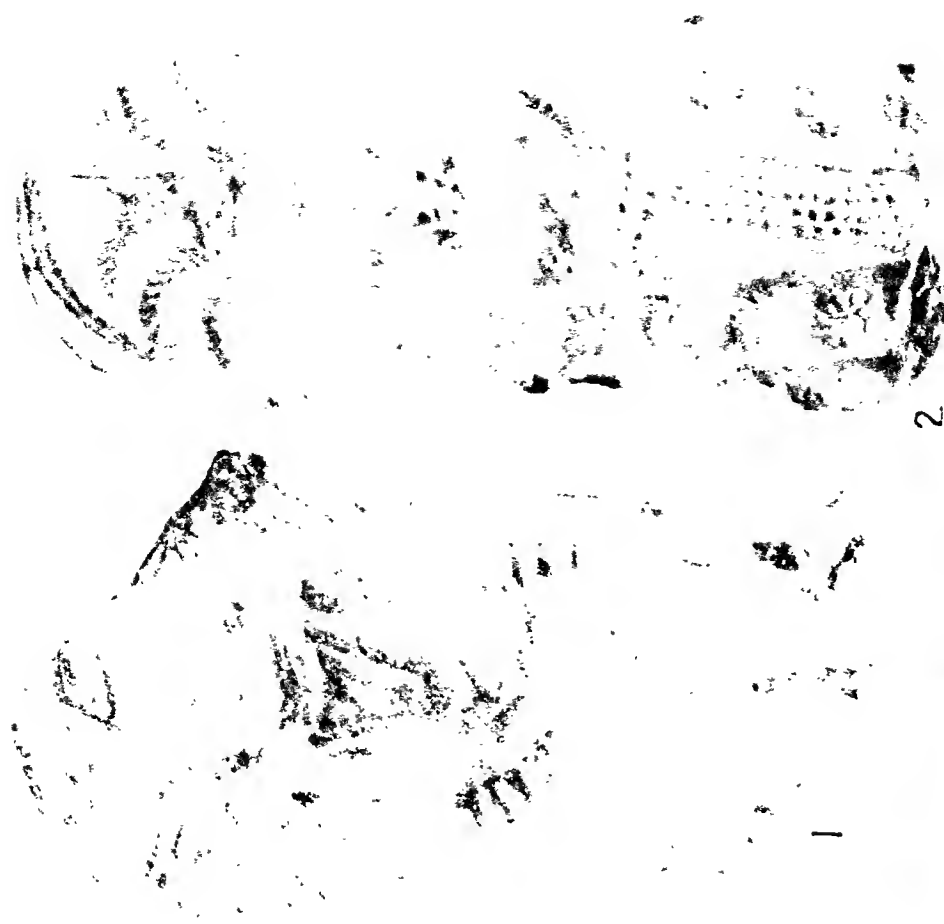
C, terracotta human figurines, indigenous types, SP II



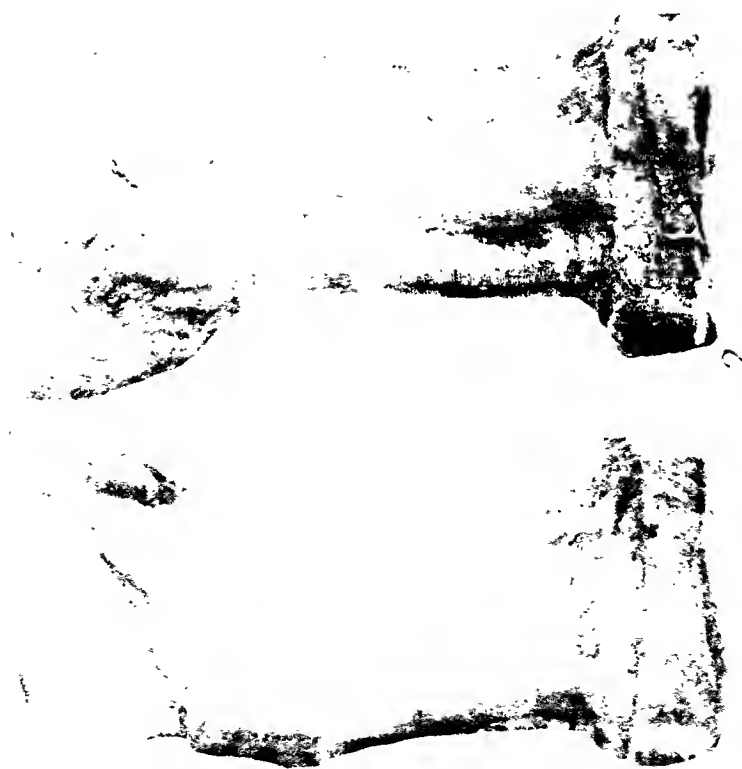
A, terracotta human figurine, indigenous type, SP III



B, terracotta human figurine, indigenous type, SP IV



B, terracotta human figurines, indigenous types, 1, SP IV, 2, SP III



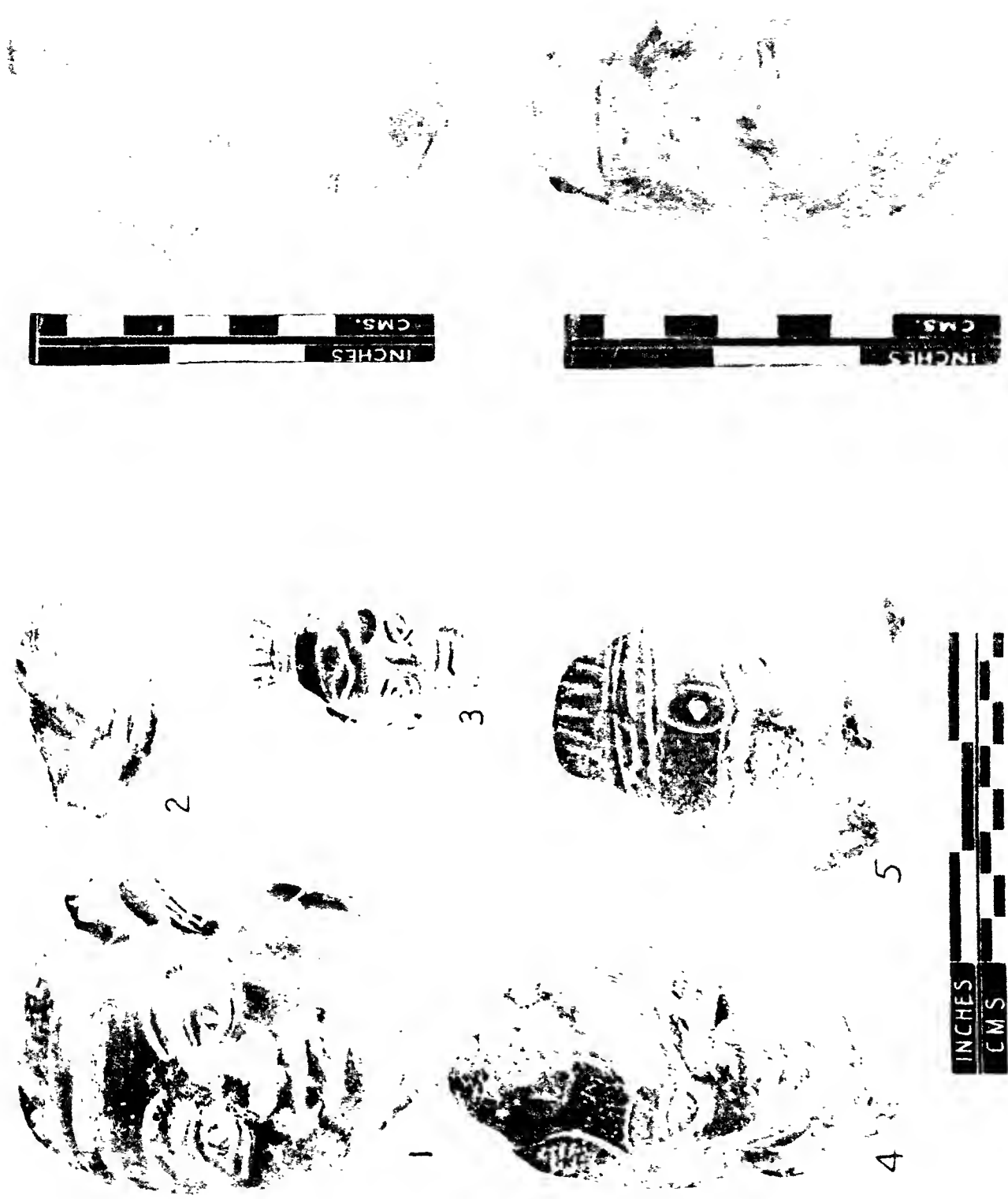
A, terracotta human figurine, indigenous type, 1, front view and 2, back view, SP III



B, terracotta human figurine, indigenous type, SP IV

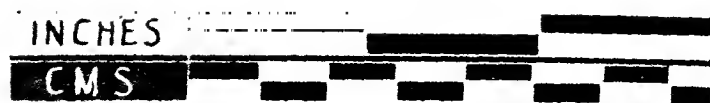


*A, terracotta human figurine,
indigenous type, SP V*



B and C, terracotta human figurine, Ekamukha linga (?) surface

A, terracotta human figurines, indigenous types, 1, 2 and 3, SP V, 4, SP VI, 5, SP VIII



Terracotta human figurine : A, front view; B, side view; indigenous type, SP V



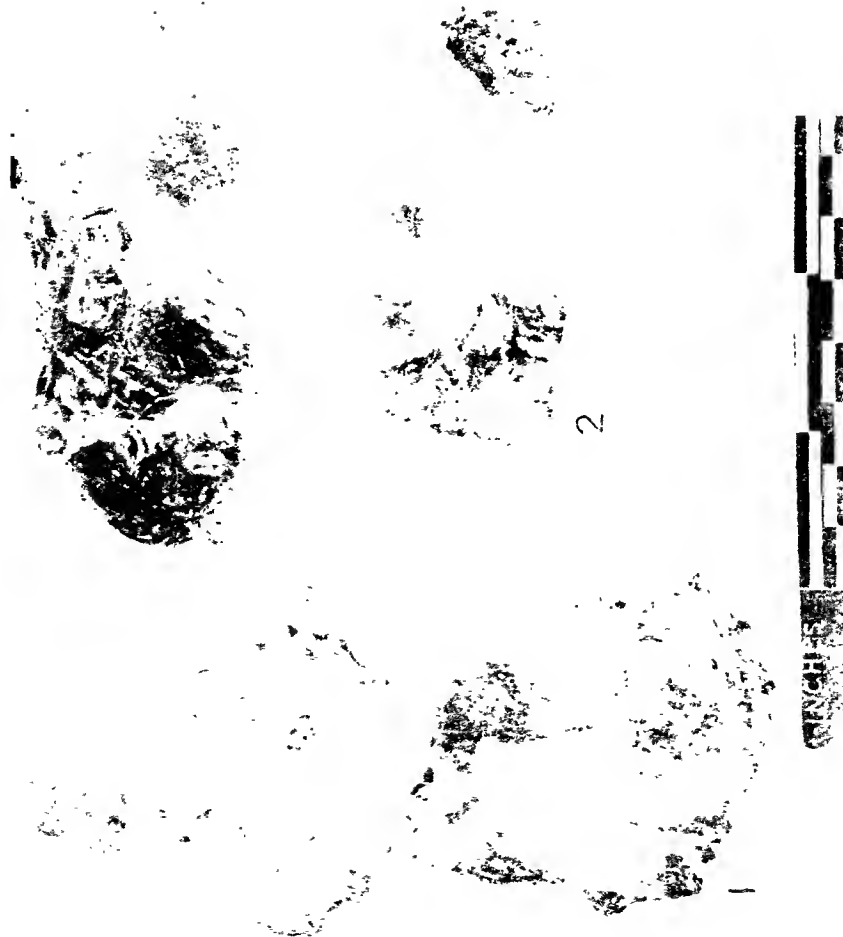
A, terracotta human figurines, indigenous types, 1 and 2, SP VII, 3 and 4, SP VI



B, terracotta human figurines, indigenous types,
1, SP IV, 2 and 3, SP V



B, terracotta human figurines, Saka-Parthian type, SP V



A, terracotta human figurines, Saka-Parthian type, 1, SP V, 2, SP VI



Terracotta human figurines, Saka-Parthian type, SP V

*B, terracotta human figurines, Saka-Parthian type ;
1, SP V, 2, SP V, VII, 3, SP V to VIII, 4, SP VI and 5 and
6, SP VI*

A, terracotta human figurines, Saka-Parthian type, SP V

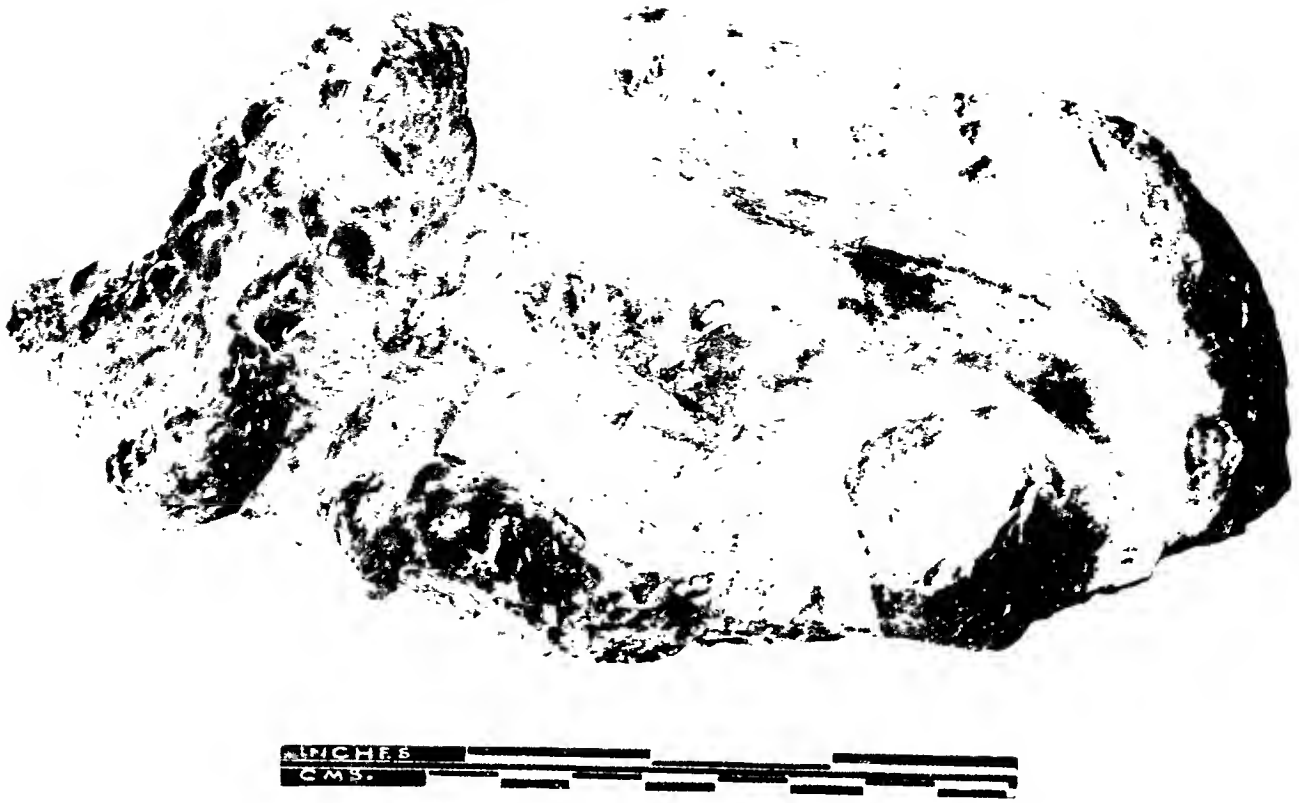




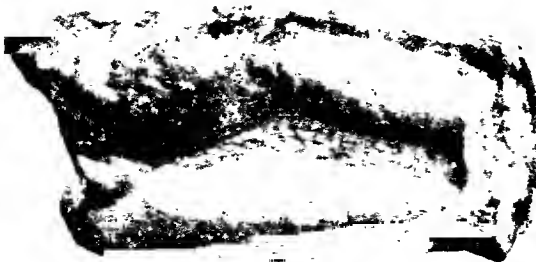
A, terracotta human figurine; Saka-Parthian type, SP V



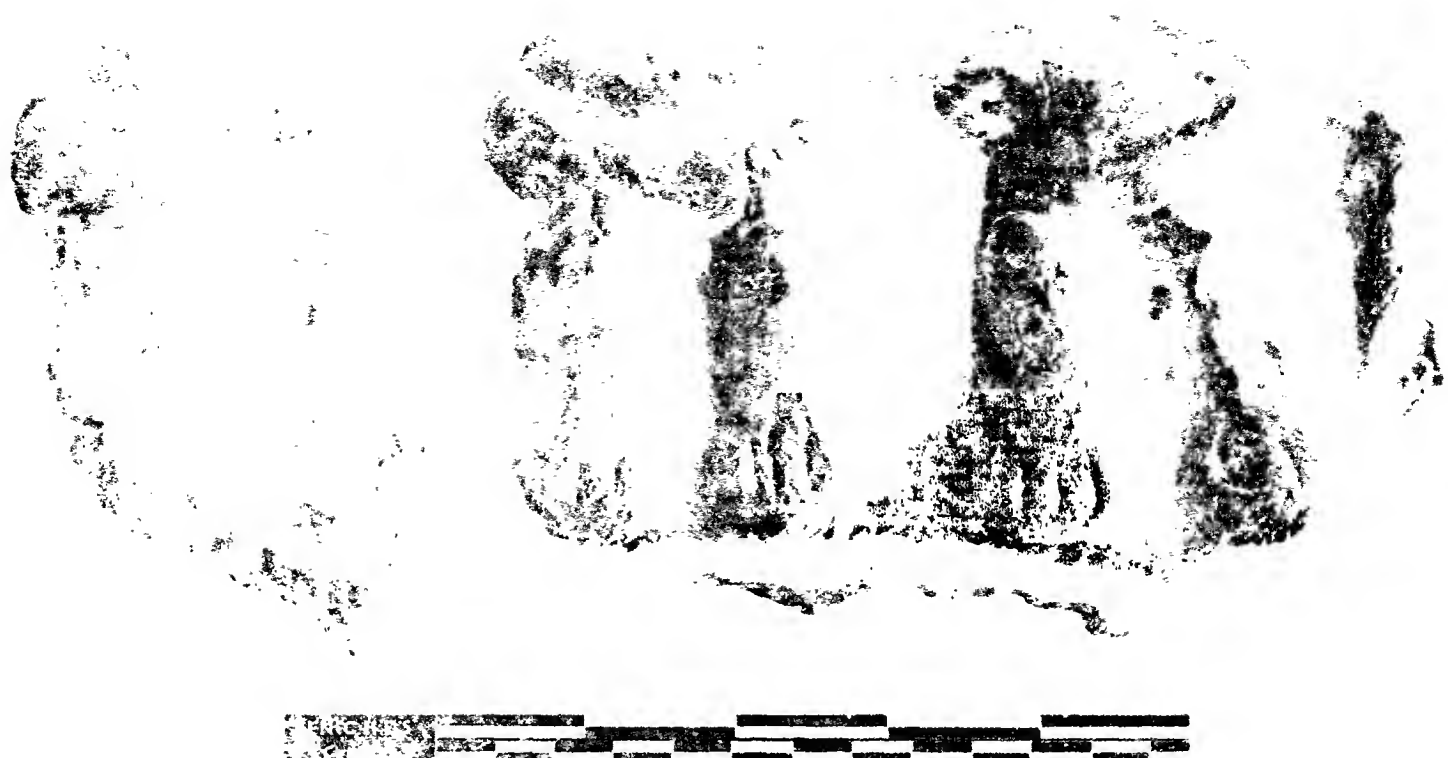
B, terracotta human figurines; Saka-Parthian type, 1, SP V, 2, SP VII



B, terracotta human figurine; Śaka-Parthian type, votive tank, SP V



A, terracotta human figurines; Śaka-Parthian type, I, SP VI, 2, SP VIII, 3 and 4, SP V



A. terracotta human figurines: Šaka-Parthian type, votive tank. surface



B. terracotta human figurines: Šaka-Parthian type, votive tank, SP VII



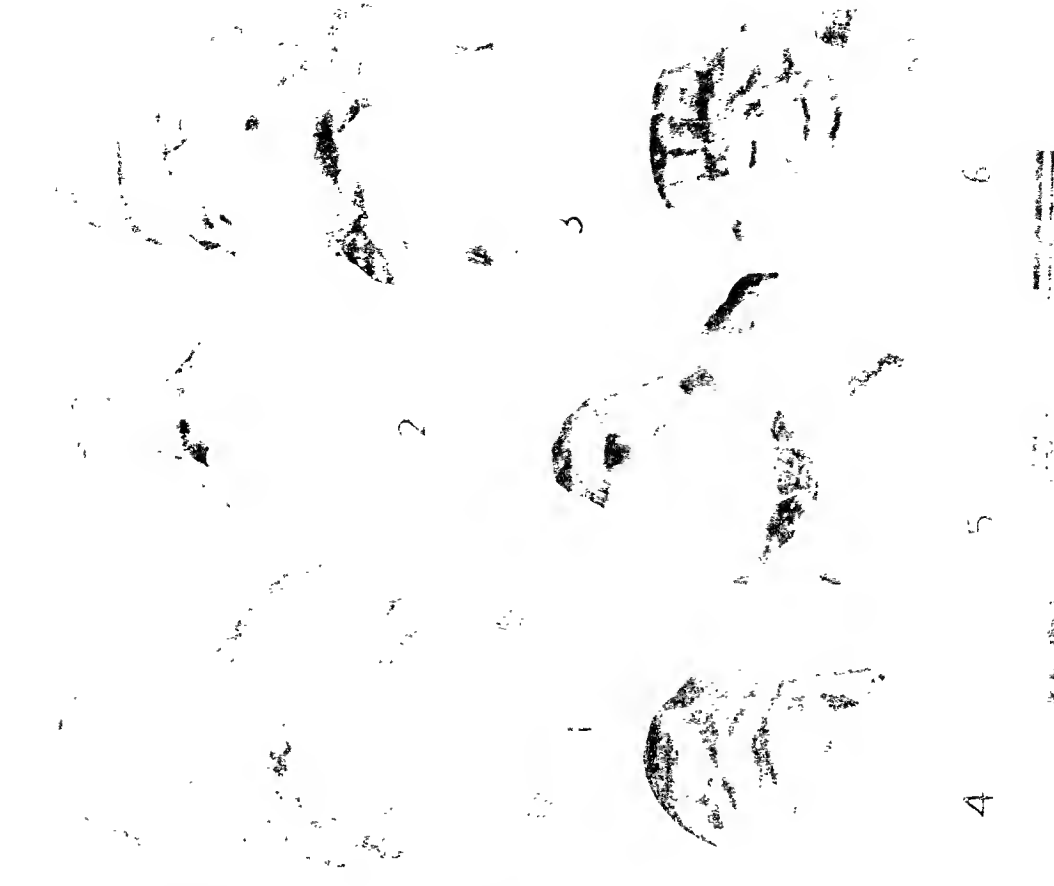
1, terracotta human figurine, female, diptych. 1, SP IV, 2, SPV I, 3, SP I



B, terracotta human figurine; Naigamesa types, 1, SP VI, 2, SP V, 3, SP VII-VIII, 4, SP V, 5, SP VII and 6, SP V



*A, terracotta human figurines; 3, SP VII, 1, 2, SP VIII (?)
4, pit in SP VIII*



*B, terracotta human figurines; 1 and 6, SP V, 2 and 3, SP VI - VII,
4 and 6, SP VI - VII*



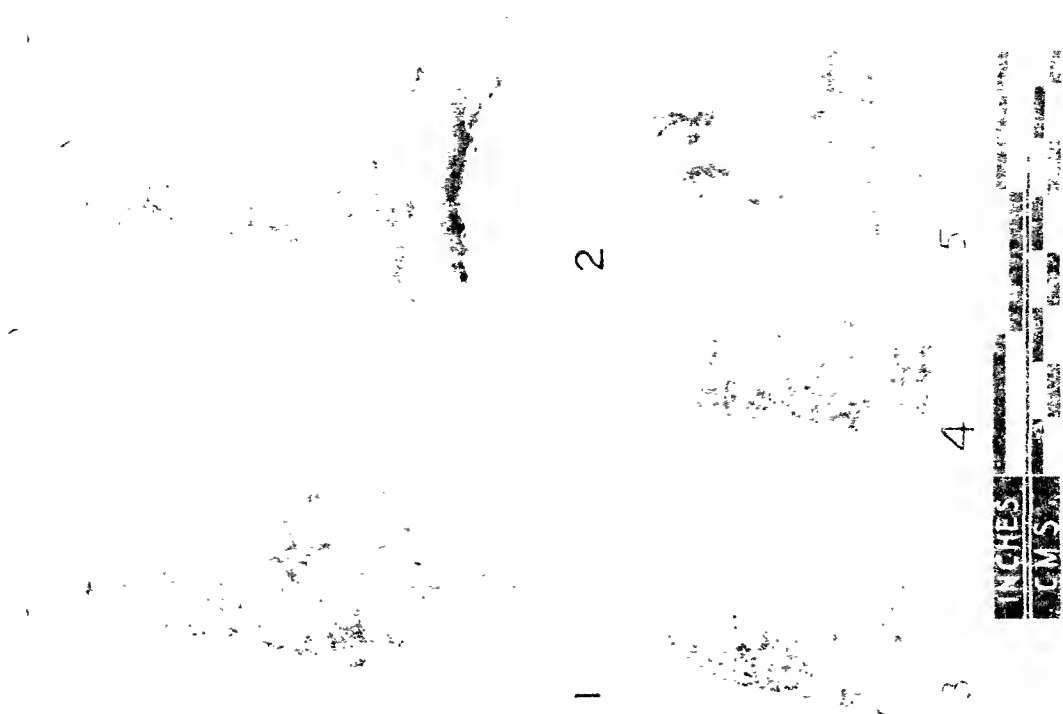
A, terracotta human figurines, SP VI



B, terracotta human figurine, SP VI



A, terracotta human figurine, SP VII



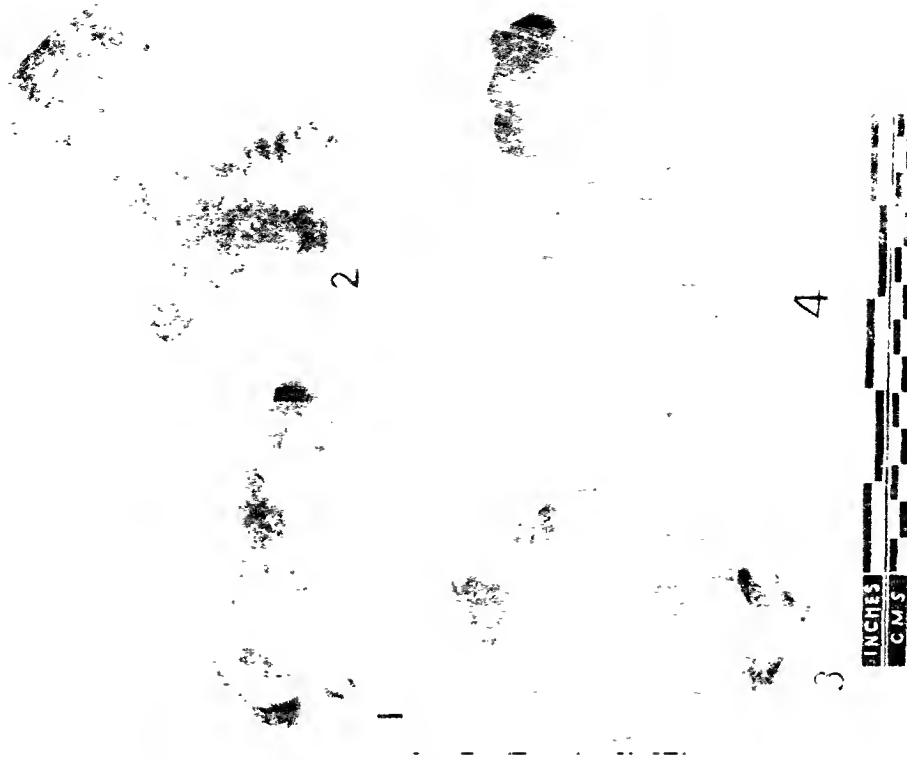
B, terracotta human figurines; Saka-Parthian cups, 1, 3 and 5, SP V, 2, SP VI, 4, SP VIII



B. terracotta figurines; parts of the body, 1 and 6, SP VIII
2, SP IV; 3 and 4, SP V, 5; SP VII



A. terracotta figurines; parts of the body, 1, 2 and 3, SP VI,
4 and 6, SP V, 5, SP VIII



*B, terracotta animal figurines, 1, SP VII, 2, SP V,
3, SP IV, 4, SP VII*



A, miscellaneous terracotta objects, 1, SP VI, 2, SP VII



A, terracotta animal figurines, 1, SP III, 2, SP V



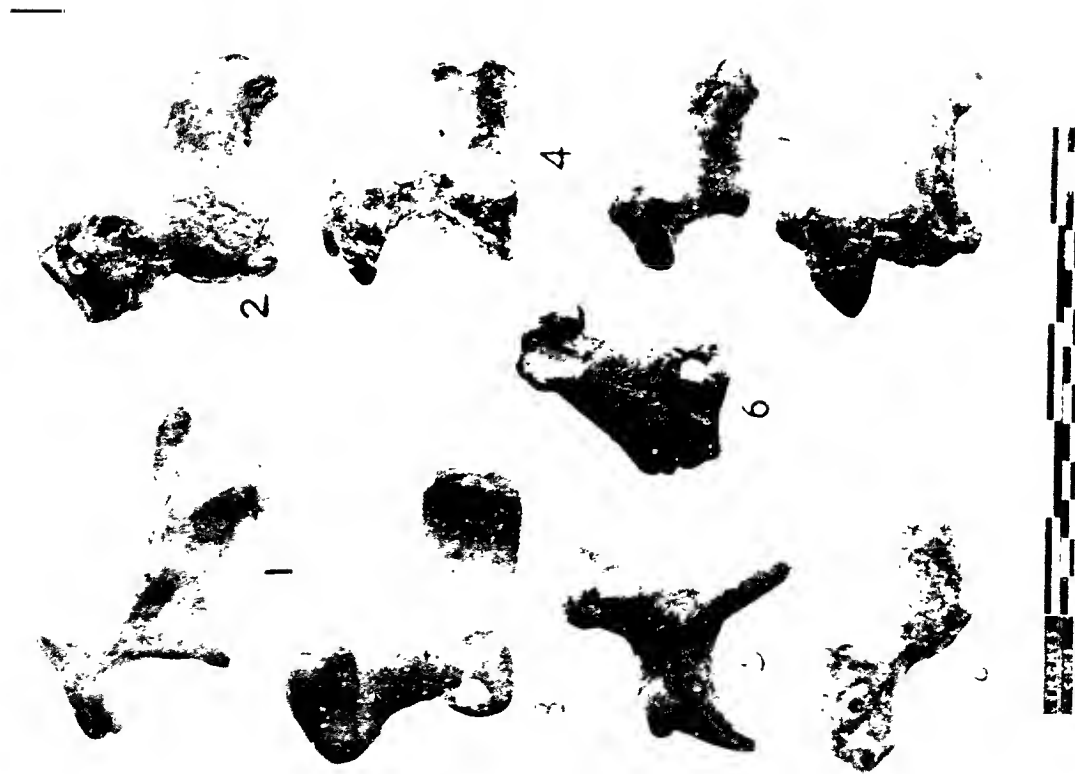
B, terracotta animal figurines, 1, SP 1B, 2, SP 1B



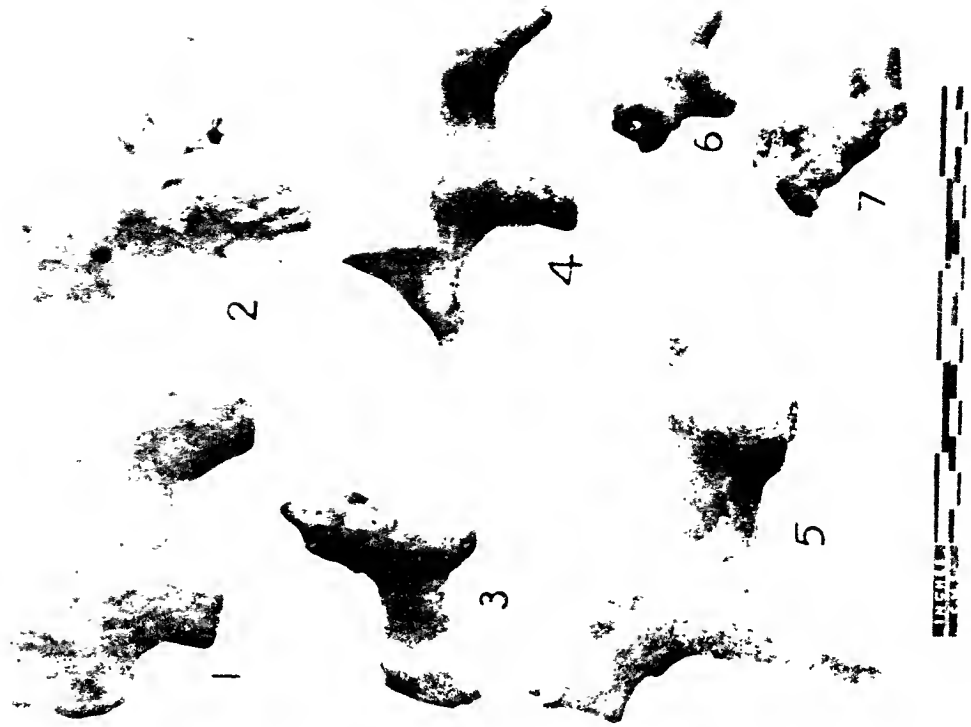
A, terracotta animal figurines, 1 and 3, SP 1A, 2 and 6, SP VII, 4, SP VI and 5, SP VIII



B, terracotta animal figurines, 1, SP 1A, 2, SP, 1B, 3, SP VII, 4 and 6, SP V, and 5, SP VI



A' terracotta animal figurines, 1, 3 and 6, SP VII, 4 and 8, SP V.
5 and 7, SP VIII, 9, SP VI, 2, SP VII



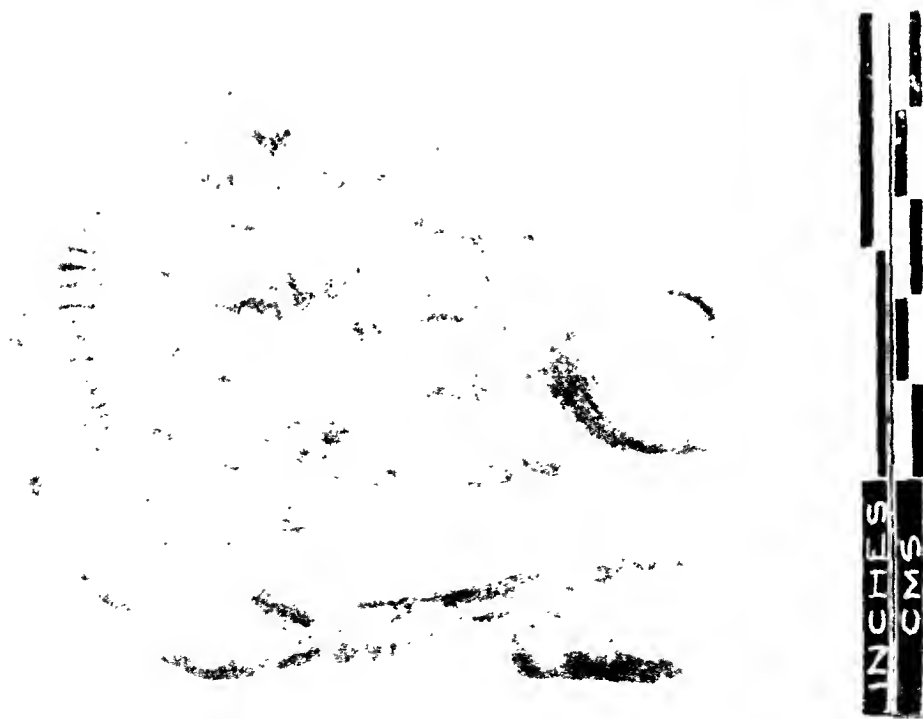
B, terracotta animal figurines, 1, SP III, 2, SP IB, 3, SP VII,
4 and 5, SP VIII, 6, SP IV and 7, SP VI



B. terracotta birds, 1 and 6, SP V, 2, 3, 5, 7 and 8, SP VI, 4, SP VIII



A. terracotta animal figurines, 1 and 2, SP VIII, 3, and 4, SP VI



A, terracotta toy-cart, front view, surface



B, terracotta toy-cart, side view, surface

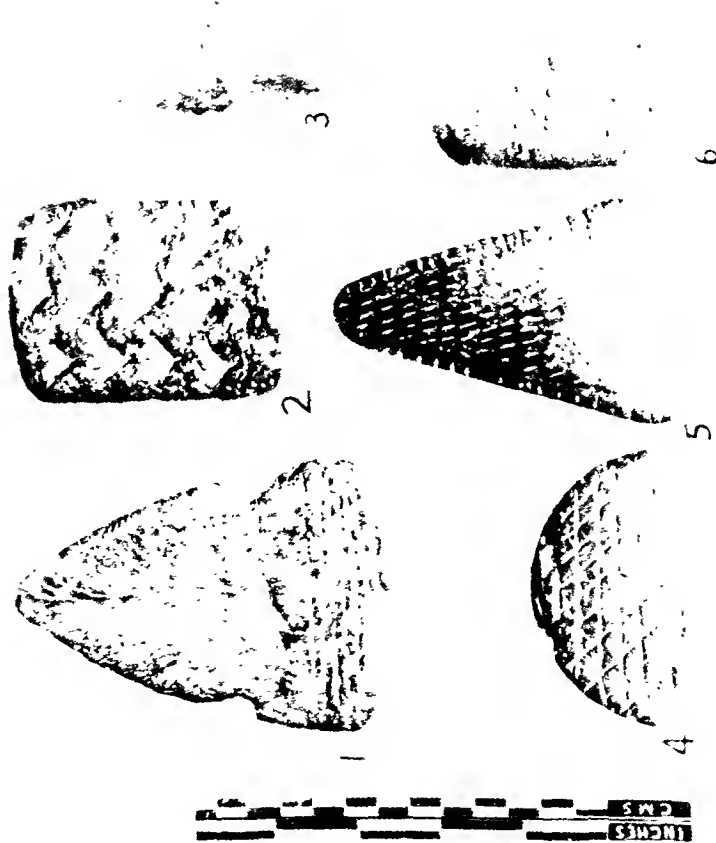


A, terracotta wheels; 1, unstratified, 2 and 10, SP V, 3 and 9, SP III. 4 and 6, SP VI, 5, 7 and 8, SP IV

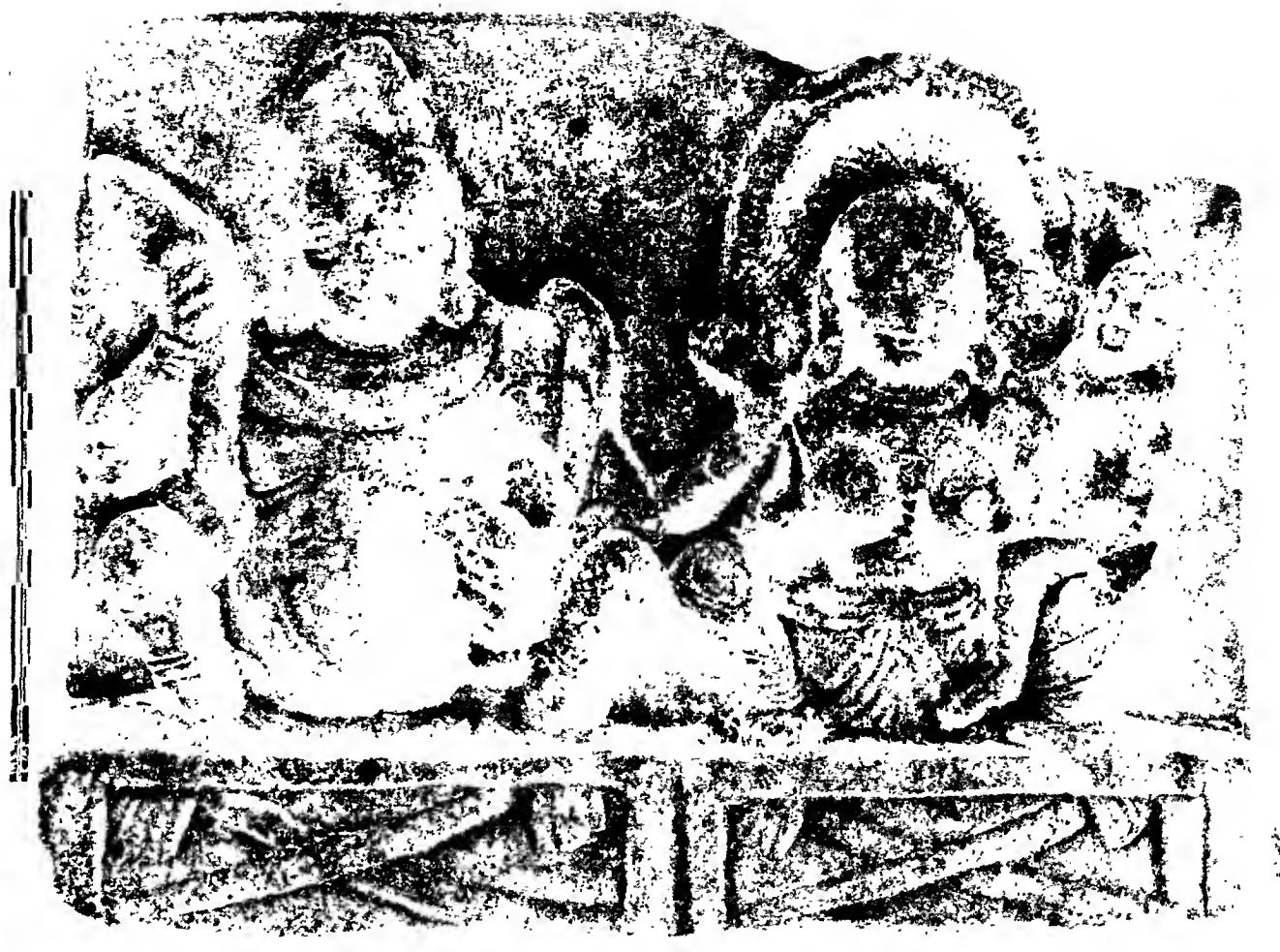
B, terracotta stamps; 1, 2, 3 and 4, SP VII



B, stone object; āyagapattā, pit in SP VI



A, terracotta flesh-rubbers, 1, SP V, 2 and 5, SP IV, 3 and 6, SP VIII, and 4, SP VII



A, stone image of Hārīti and Pāñchika, pit SP VIII



B, red sandstone image of Jain Tirthaṅkara, pit in SP VIII



A, red sandstone image of mother and child, pit in SP VIII



B, stone image, unfinished head of a foreigner, SP VIII



A, Gañesa, pit in SP VIII



B, Naga, pit in SP VIII



1



1a



2



3



4



5



6



7



8



8a



9



10



11



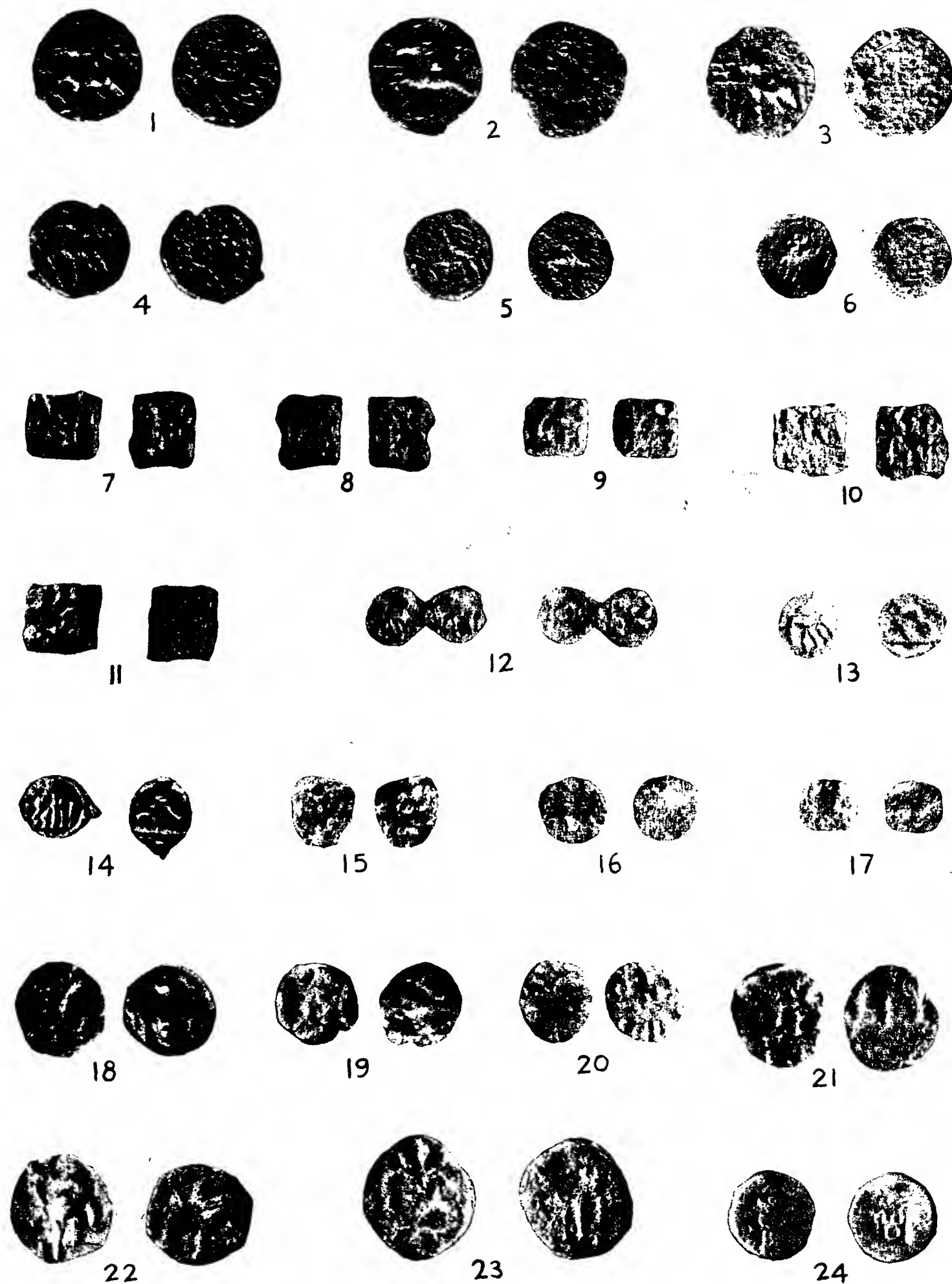
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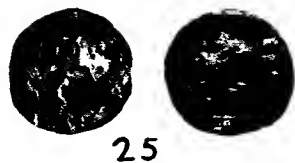
13



14



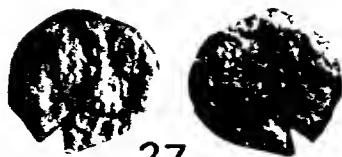
Coins : 7, SP IA: 1, 2, 8 and 12, SP IB: 5, SP II: 3, 9, 13, 15, 16, 17, 18, 19, 24, SP III: 4, 6, 10, 20, 21, 22, SP IV: and 11, 14, 23, SP V



25



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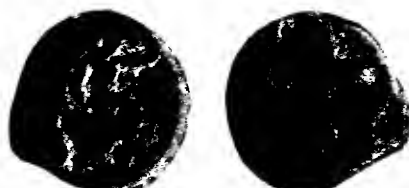
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Coins : 26, 27, SP IV; 25, 28, SP V; 34, 35, SP VI; 29, 30, 31, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, SP VII



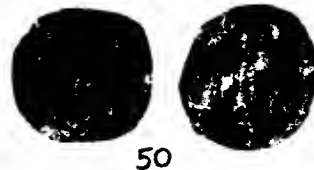
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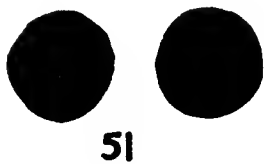
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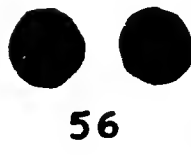
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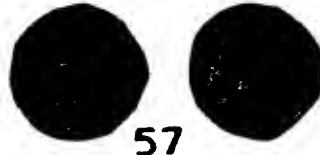
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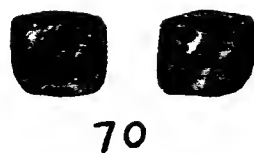
67



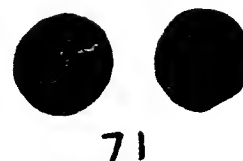
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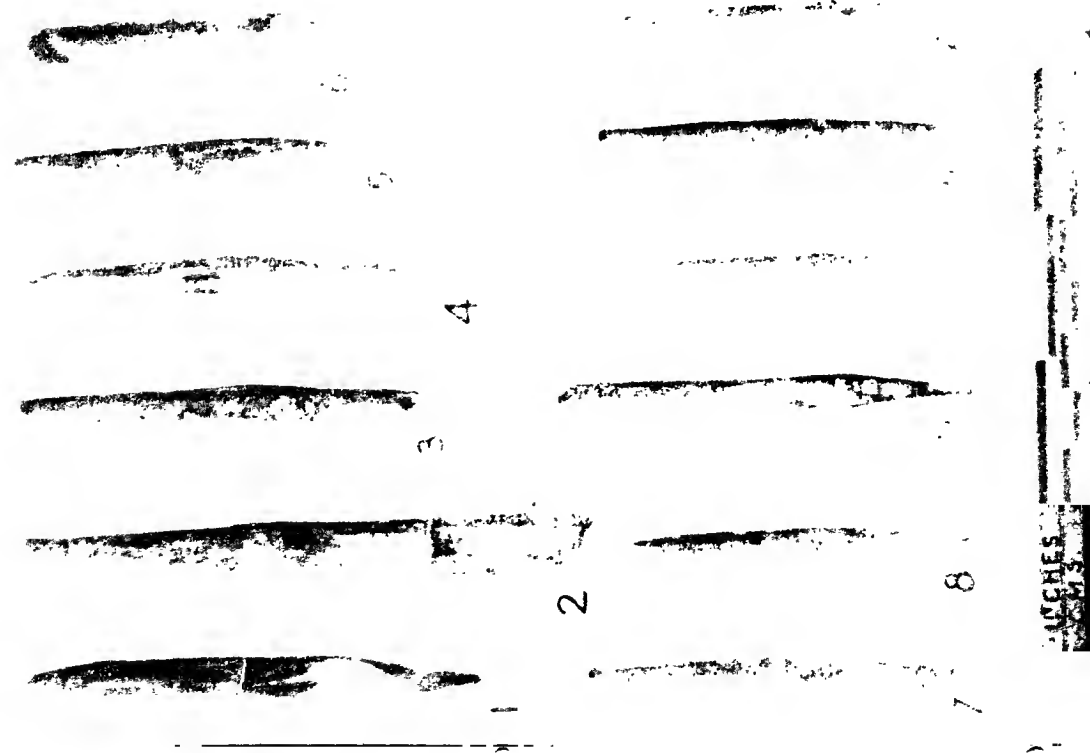


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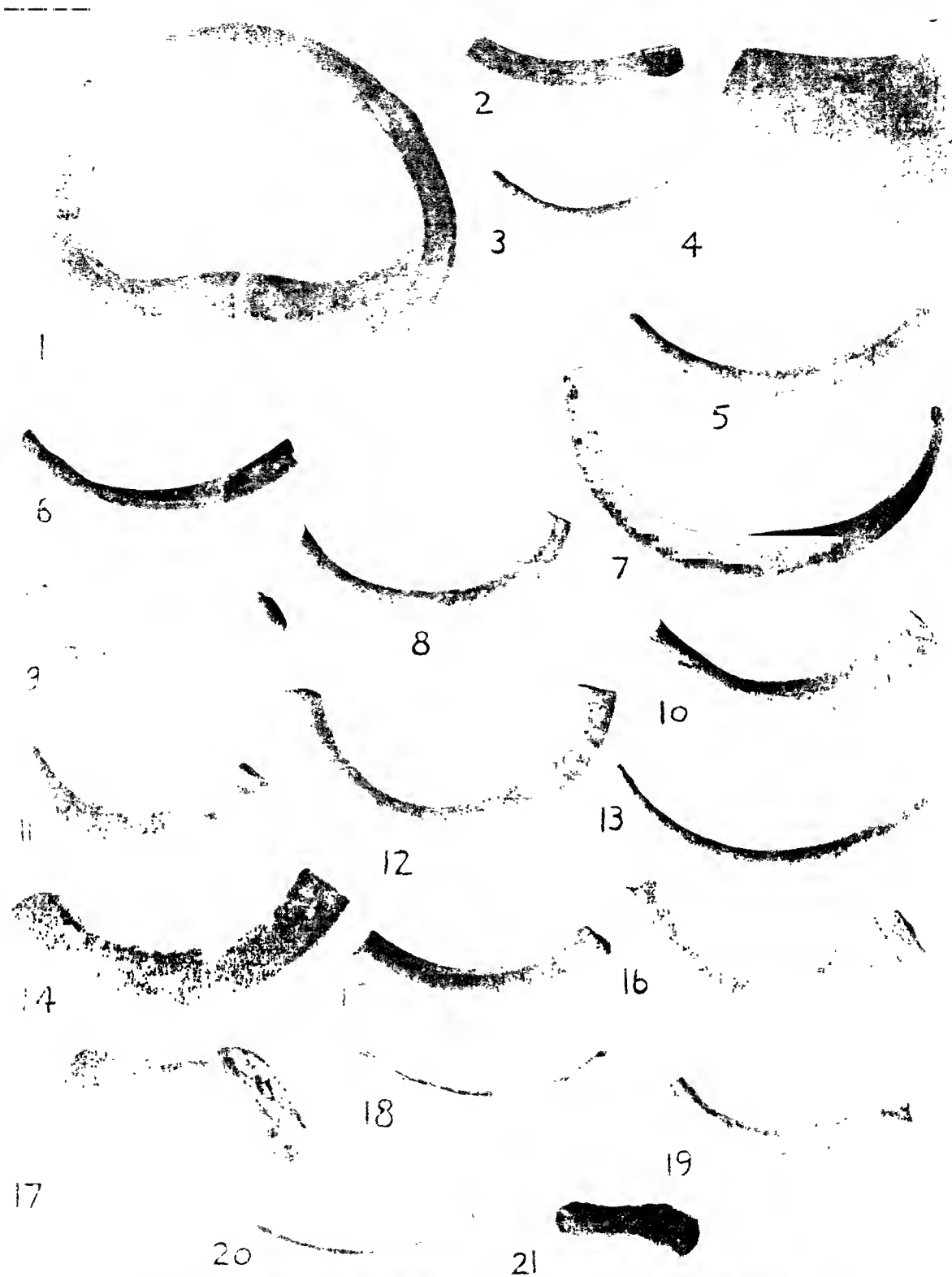
Coins : 64, SP IB; 53, SP 1B or II, 54, 55, 56, 58, 65, SP III; 57, 60, SP IV; 59, 61, 62, 63, 66, 70, SP V;
67, 68, SP VI; 47, 48, 49, SP VII; 50, 51, SP VIII; 52, 69, 71, post-habitation deposit



B, ivory stand, SP IV



A, stylus : 10, PS I; 1, PS II; 6, 8, 9, SP IA; 11, SP IB; 2, 7, SP II; 3, 5, SP IV; 12, SP VI and 4, unstratified

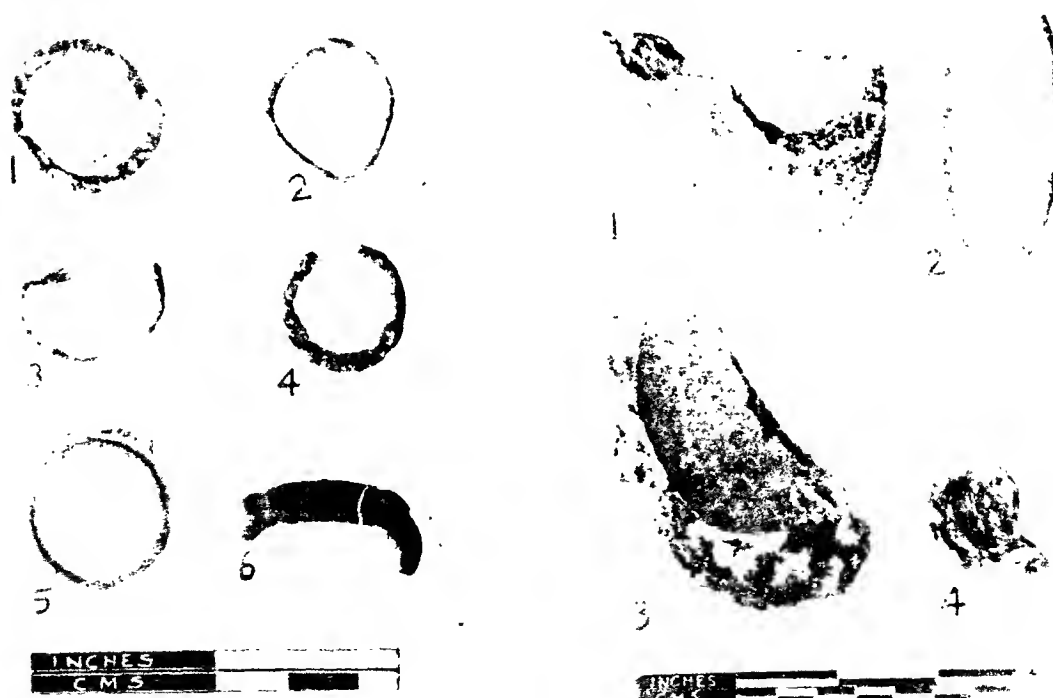


*Bangles : 6, SP IA; 14, SP IB; 9, 10, SP II; 1, 16, SP VI; 3, 4, 5, 11, 12, 17, 19, SP V;
15, SP VI; 8, SP VII; 2, SP VII-VIII and 7, 13, 18, 20, 21, SP VIII*

*Bangles : terracotta : 1, 3, 8, 9, 10, 11, 12, 13, 15, 16, 17, 19;
ivory : 2, agate : 4, 14; shell : 5, 6, 7; glass : 18, 20, 21*



A, terracotta games pieces and playthings : 3, 6, SP V; 2, SP VII; 1, 3, 4, 5, 7, SP VIII

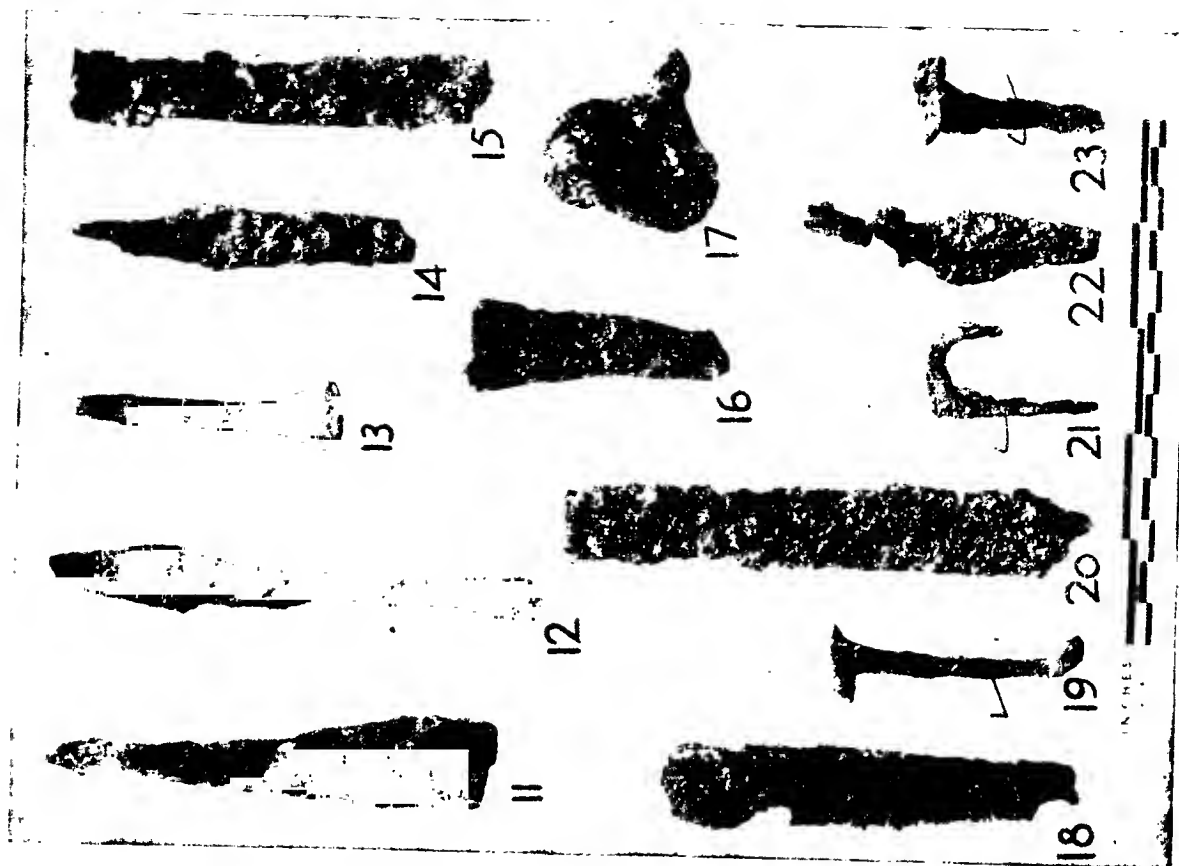


*B, ornaments : 5, SP IV; 1, 3, 4, 5, 7, SP V;
2, 6, SP VIII*

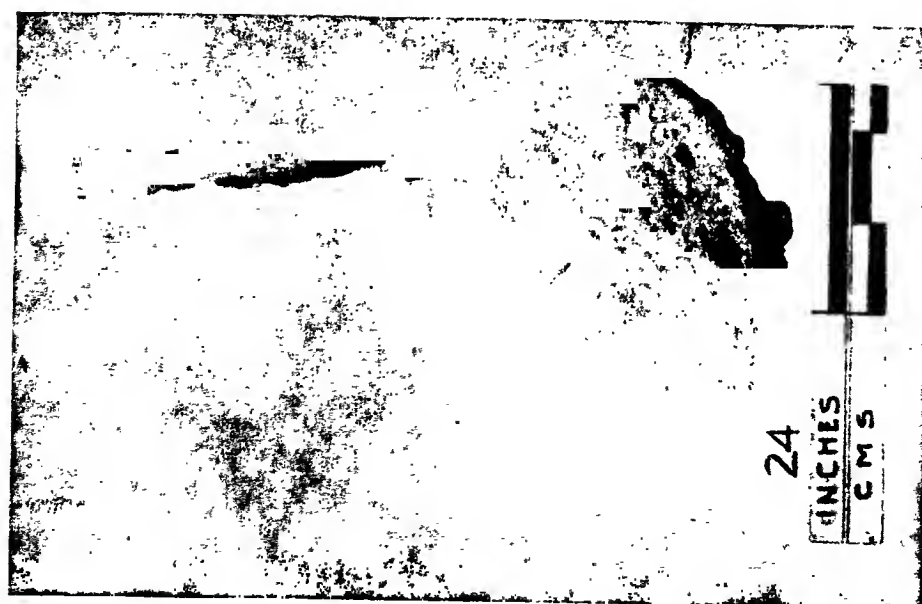
C, crucibles : 4, SP VII; 1, 2, 3, SP VIII



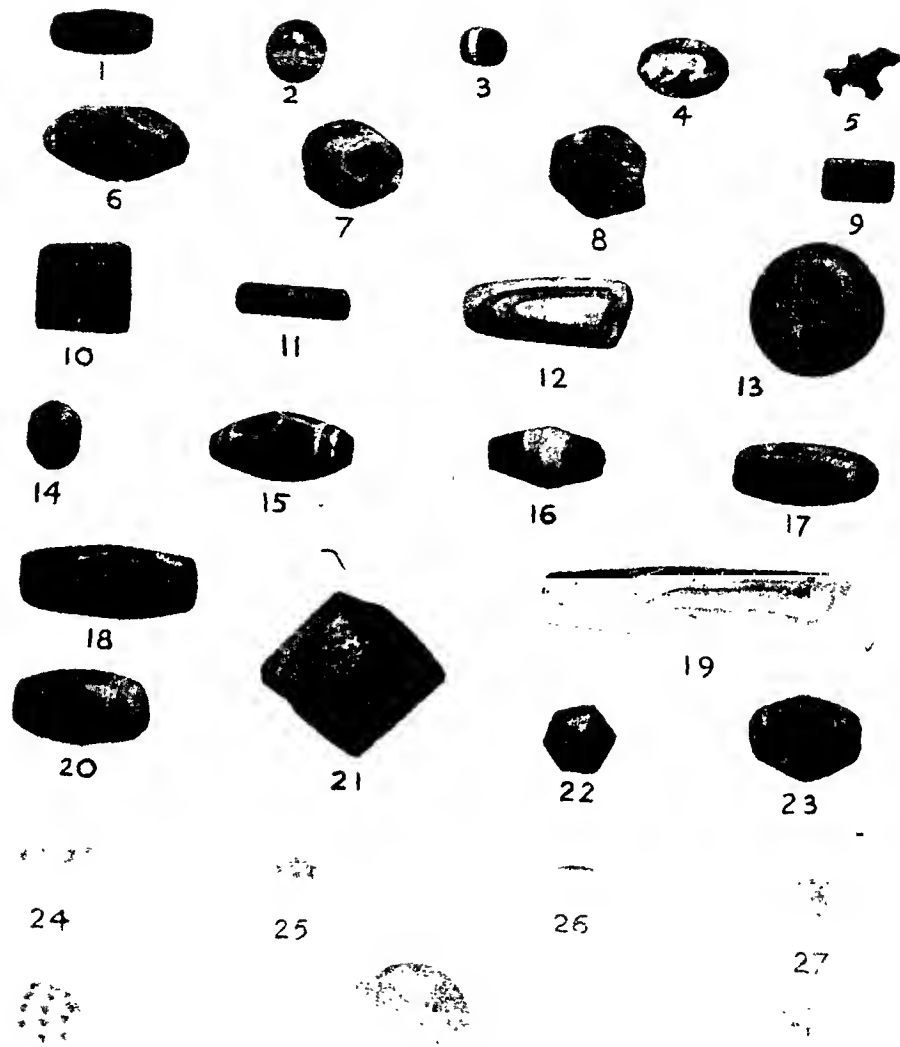
Iron objects : 5, PS V; 8, 9, SP II; 7, 10, SP III; 4, SP IV; 1, 6, SP V; 2, SP VIII, 3, unstratified



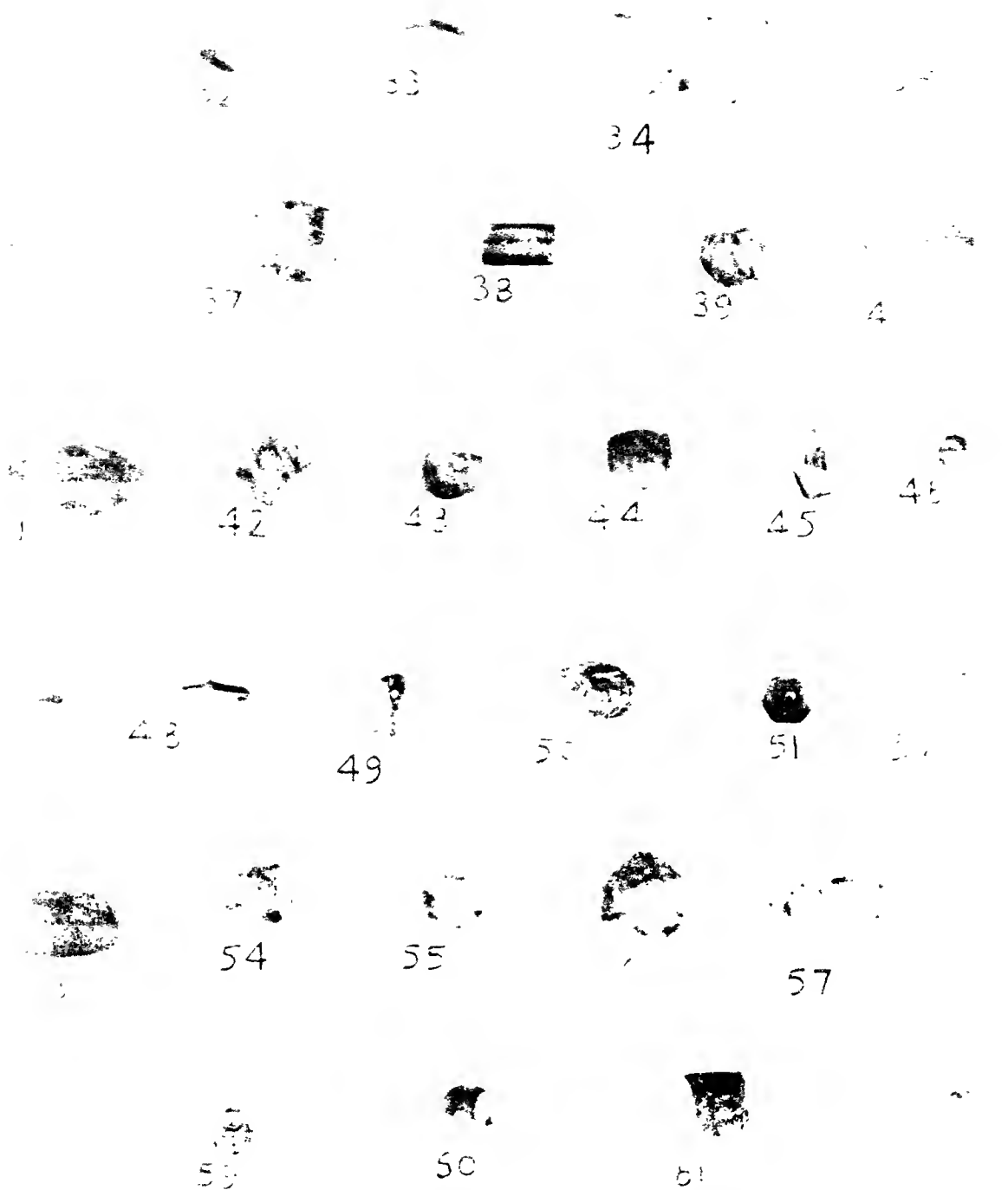
B, iron objects : 18, SP III; 17, SP IV; 20, SP V; 15, 16, 22, 23, SP VI; 14, SP VII; 11, 12, 13, 19, 21, SP VIII



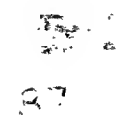
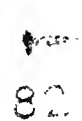
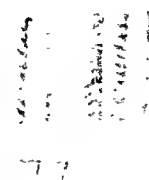
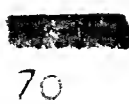
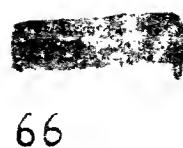
A, ladle, SP VII



Beads : 18, 21, PS IV; 3, 12, PS V; 5, 24, 26, PS II; 2, 6, 11, 15, 30, SP III; 20, SP IV; 10, 14, SP V; 8, 9, 13, 19, 18, SP VI; 1, 7, 16, 23, SP VII; 4, 17, 27, 29, SP VIII; 25, unstratified and 22 from Ghositārāma

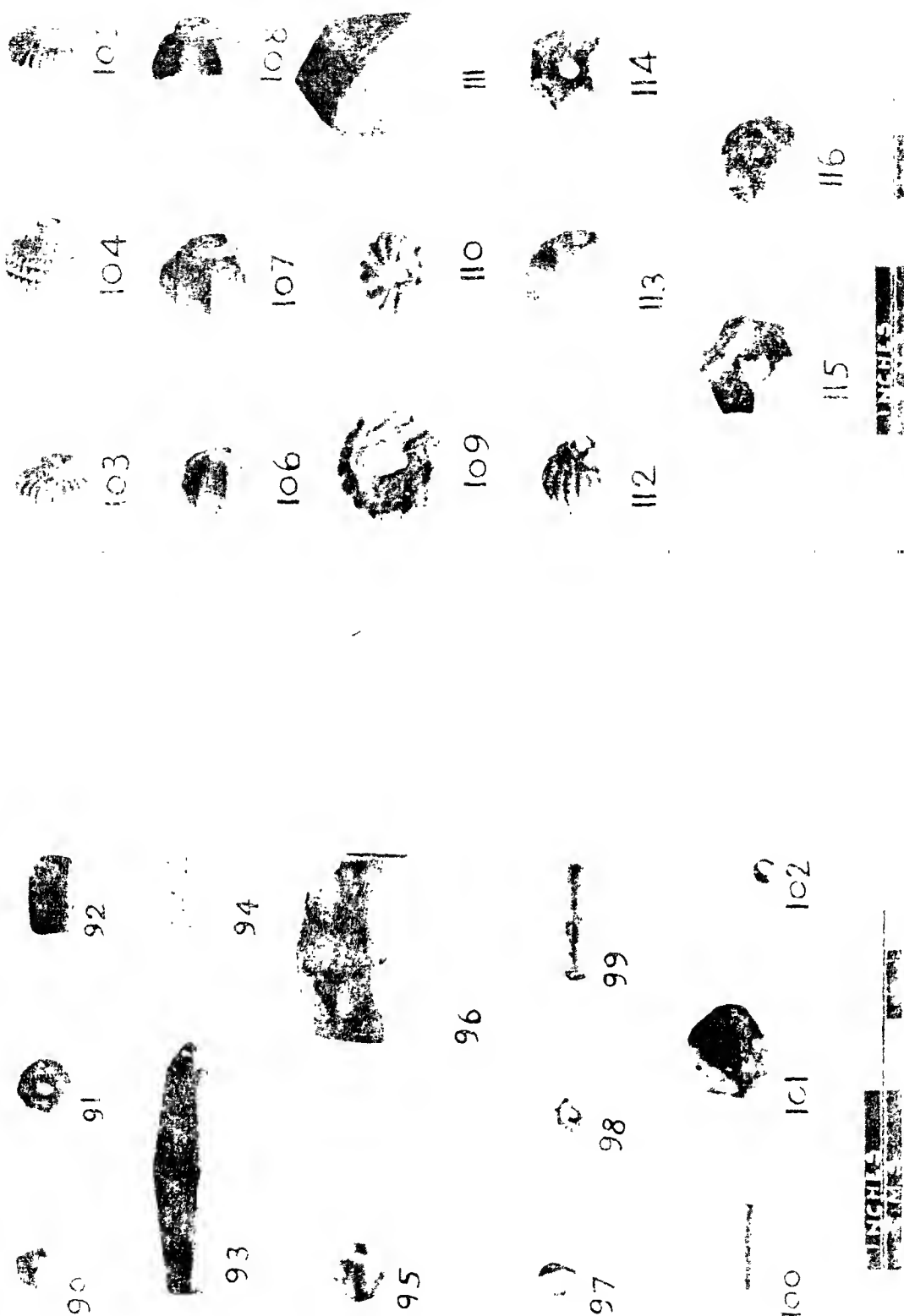


Beads: 37, PS V; 33, 54, SP IA; 40, 48, SP IV; 42, 51, 53, 57, SP II; 36, 41, 46, 52, 58, SP III; 47, 49, SP IV; 55, 56, 60, SP V; 31, 44, 59, SP VI; 32, 35, 38, 39, 45, SP VII; 34, 50, 61, 62, SP VIII; and 43, unstratified



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Beads : 78, SP IA; 76, SP IB; 77, SP III; 67, 73, 74, SP IV;
65, 75, 81, 83, 84, 85, 88, SP V; 63, 72, 79, 82, 84, SP VI;
64, 66, 68, 87, SP VII; 69, 70, 71, 80, 89, SP VIII

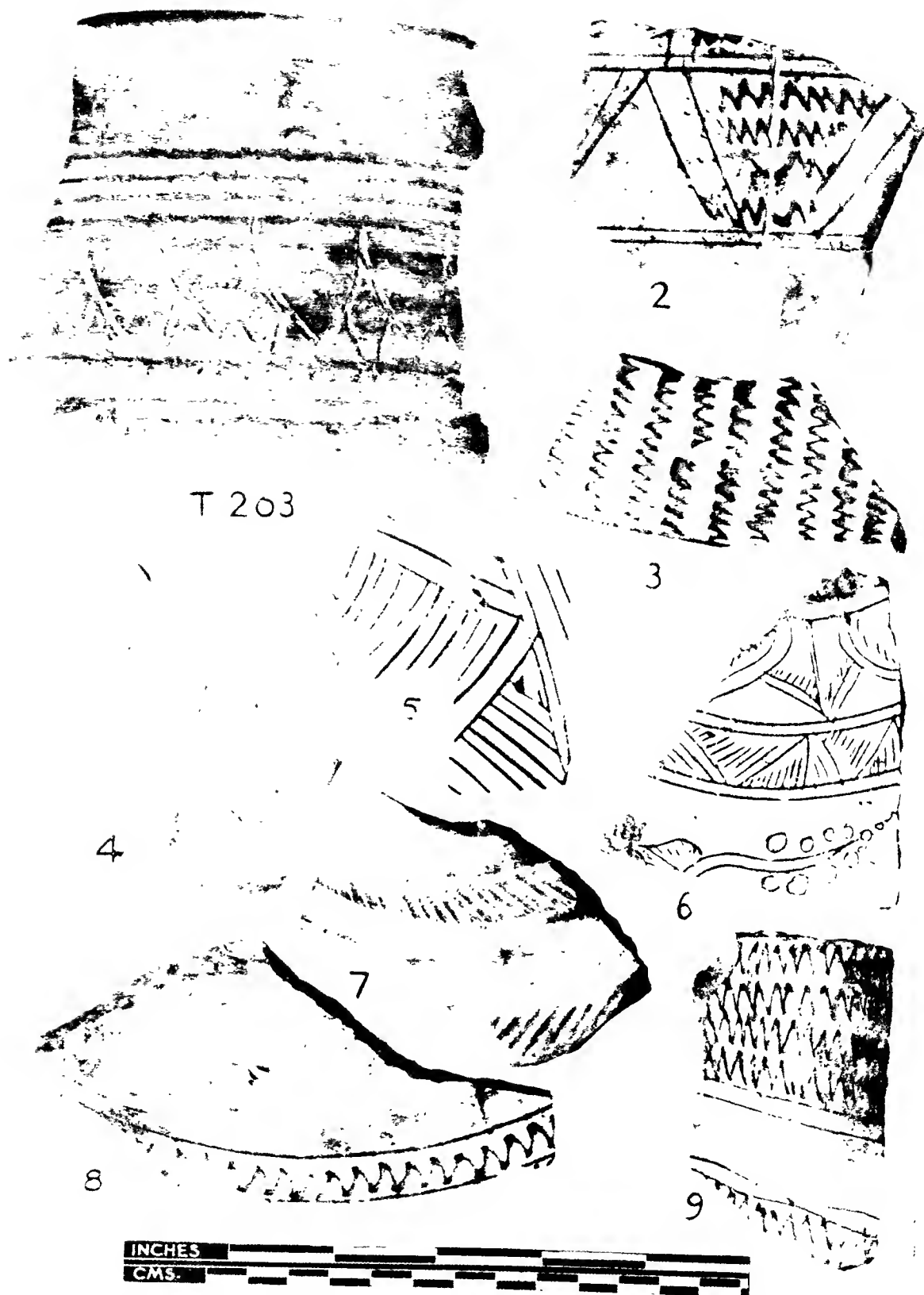


A, beads : 96, 1A; 98, SP IB; 93, 95, SP II; 100, 102, SP III; 92, 99, SP IV; 101, SP V; 90, 91, SP VI; 97, SP VII; and 94, SP VIII

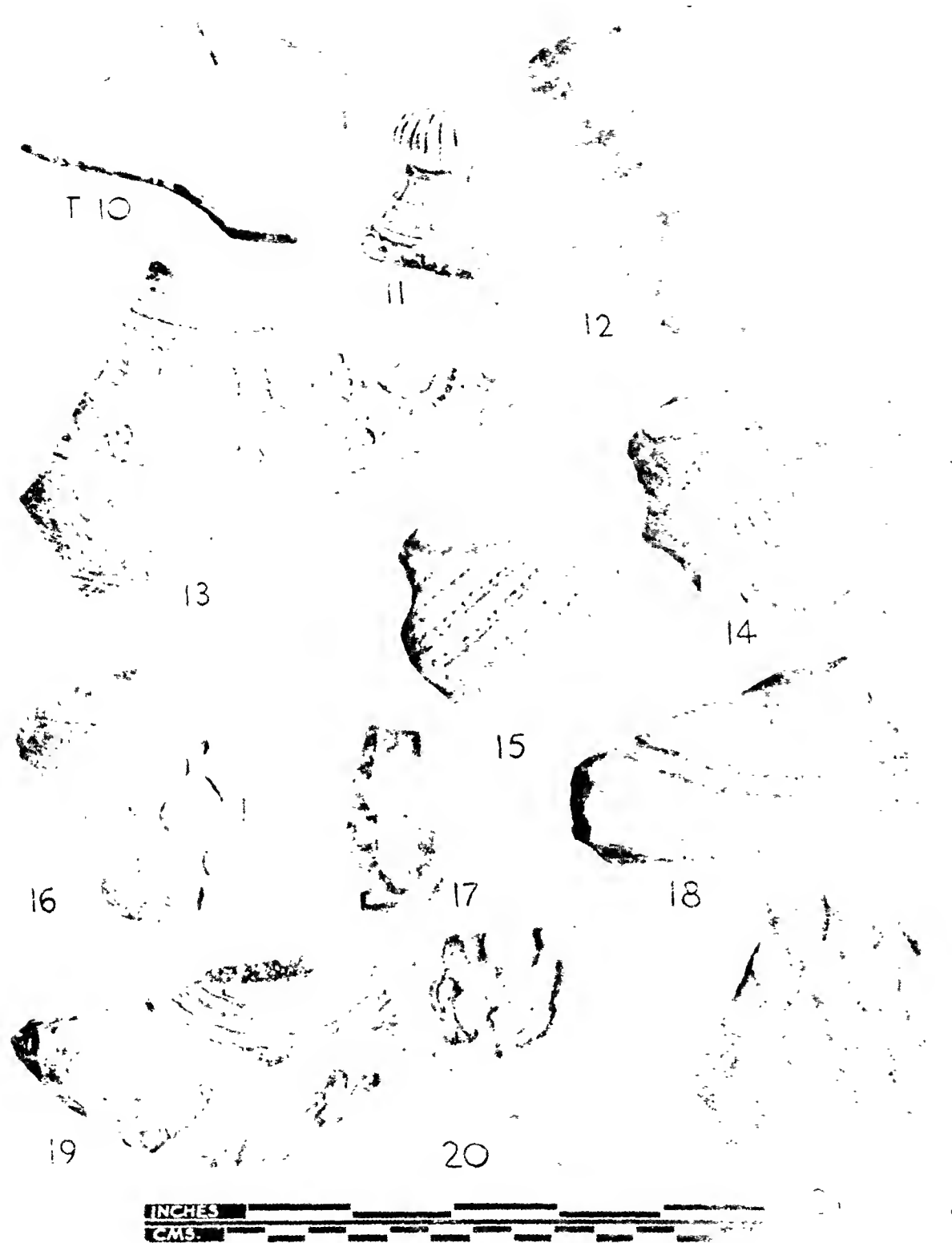
B, beads : 114, SP III; 106, 112, SP IV; 103, 109, 11, 116, SP V; 105, 107, 108, SP VI; 104, 110, 113, 115, SP VII



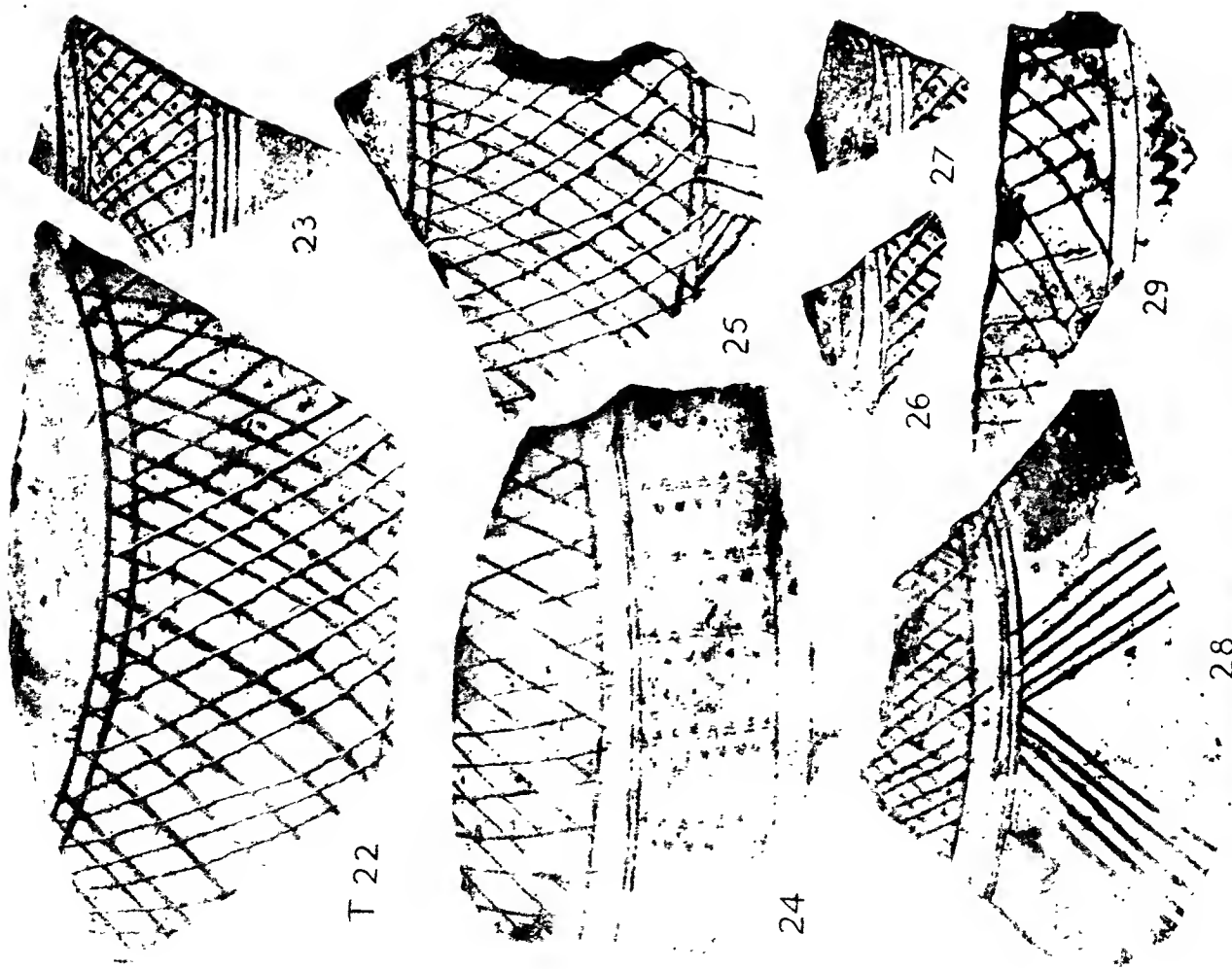
Beads and pendants : 118, SP IB; 121, SP III; 117, SP IV; 125, SP V; 122, 124, 126, SP VI; 119, 120, 123, SP VIII



Decorated pottery : T 203, 2, 5, 7, SP V; 6, 9, SP VI; 3, 4, 8, SP VII



Decorated pottery : 16, SP III, 10, 19, 20, SP IV; 13, 21, SP V; 18, SP VII; 14, 17, SP VIII, and 12 unstratified



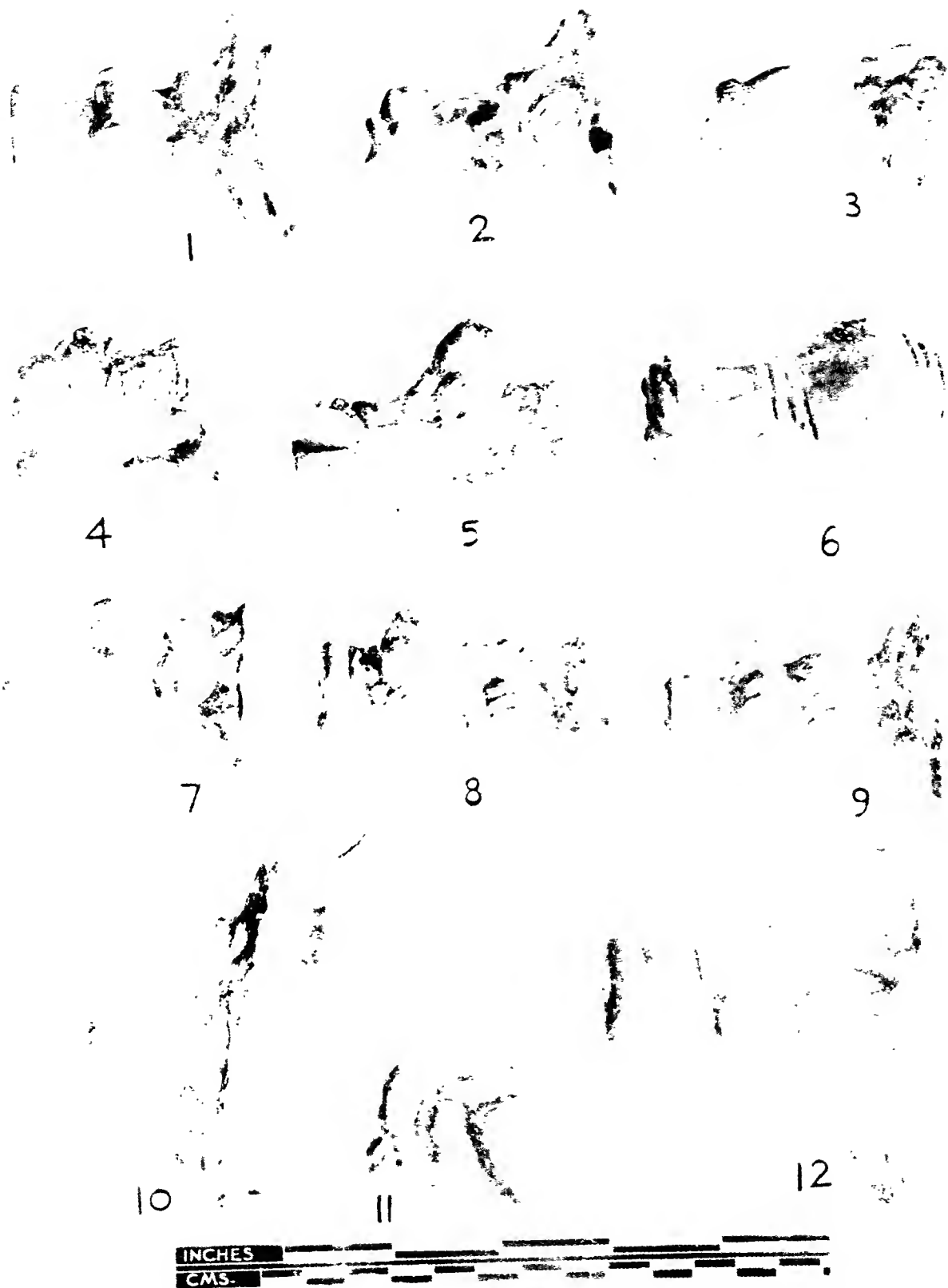
A, decorated pottery : 22, 26, 27, SP VI; 24, 25, 28, SP VII;
23, 29, SP VIII



INCHES

B, decorated handle, SP V

INCHES



Spouts : 2, 3, 6, 8, 9, 11, SP V; 1, 4, 7, SP VI; 10, SP VII; 12, SP VIII and 5, pit from SP VIII



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